THE

SOUTHERN AGRICULTURIST.

OCTOBER, 1836.

PART I.

ORIGINAL COMMUNICATIONS.

Account of the Growing Crop.

Mr. Editor,—In compliance with your request, I herewith send you an account of our Cotton and Provision Crops; and I do so the more cheerfully, as I regard your valuable journal as the most fit channel, through which such communications should come to the public. Given from time to time, they will be preserved by your pages, from a fugitive destiny, and will serve as a history of the crops in each agricultural year.

Our Crops of Cotton, planted between 25th March and 15th April, with few exceptions, came up well. Our Planters, stimulated by the high prices which the article was commanding, seem to vie with each other, in their efforts to bestow such care and skill in their management as would produce the largest return. At this period of the year, the opinions of our Planters in reference to the size and formation of their Cotton beds, could be seen in their respective fields: some prefer making their beds small in the first instance, and depend upon *successive haulings* to give them the apposite size,—others, construct them at first larger than they would ultimately have them allowing for their *settling*—believing that the *haulings* which can be given them, in safety to the plants, are liable to be washed away by subsequent rains, and that the beds can only be increased, after the Cotton is planted, at the hazard of the health of the plants. In this latter opinion, I concur, and the experience of the present sea-

son will I think, convince many, of its correctness. Our crops well set, grew finely and were promising until about the 10th of May, when we were visited by a spell of easterly winds and chilly weather; many who were emboldened by the spring-like appearance of the season to *thin* out their Cotton plants freely, began to wish them back. But this is a risk which every one must run, who expects to reap early fruit. Our crops were severely chafed and seared by this spell, and before they had fully recovered, were overtaken by deluging showers of rain, which reduced the beds to the size of the original list, and induced the necessity of a severe hauling. This, as I have before said, is at all times hazardous, but in wet weather imminently so. The consequence was, our plants became much diseased, and cast off all their young fruit. Our lands became so saturated, that wherever they were low, the plants dwindled away from the diseased condition of their roots, and owing to this cause, they as yet, have not attained more than half their usual growth. Wherever the lands are higher, they were stimulated into an unnatural and unfruitful growth, by the action of excessive moisture upon the manure deposited for their support. Many fields which I have seen during this period, were stripped fully up to half the height of the plant, of both leaves and fruit—with broad leaves upon its top, of a deep green colour, which appearance is generally indicative of the cause above ascribed.

It would be well now to turn our eyes upon this portion of the past, and inquire whether the skill of man could not have prevented these consequences. I say, in part it could—1st. *By a more judicious application of our manure.* We planters are in the habit of drilling our manure in the centre of the beds—of applying it in an *unfermented* and *undecomposed* state, and of using marsh mud in its *unpowdered* state. The effects of this, have been this season, that where the lands were of a higher order, the roots of the plants had just reached the seat of manure, when the excessive presence of moisture acting suddenly upon the manure, produced a state of fermentation, and highly stimulating the layers of the plants brought about an unnatural growth: or where the lands were low, it altogether paralyzed the energies of the manure, by rendering it inert and torpid. Our vegetable and animal manure should be applied in a fermented and decomposed state

and by being broad-cast, it will become generally incorporated with the soil, acting gradually and uniformly upon the plants. Our marsh mud should be applied in an impalpable and powdered state, so that it may readily pass into a solution, in which state alone it can be taken into the vessels of the plant.

Another cause of our diseased crops, is—*our lands are not sufficiently drained—both high lands and low.* The clouds discharge as much rain upon the one, as upon the other, and although to the eye of the planter they may appear different, it will yet become a question whether they are not alike affected. It is somewhere said, that "draining is to the soil what bleeding is to the human constitution," and that is the true constitution of every soil, when the earthy materials, the moisture and manure, are in just proportions.

The weather became dry about the middle of July, and continued so till the middle of August, our crops evidently improved during that period, but not as much as could have been expected; and here it is worthy of remark, that such is the habit of this plant, that notwithstanding dryness is most favourable to its production, still, when it has become habituated to a moist soil, it will suffer for a while when surrounded by a dry; and the fact that our crops exhibited most disease after it became dry, is to be referred to this cause.

It is now, Mr. Editor, the 22d of August, and for two days the clouds have been lowering over our heads and discharging most liberally their contents upon us. It is not in the reach of human ken, to say what will be the result of our agricultural toils, but as far as appearances will authorize conclusions, we have not much to look for. Concerning our Provision Crops, I will write you, when I can speak more advisedly. EDISTO ISLAND.

Further views respecting the Crops.

Oak Grove, Jaspar County, Ga. 1st Sept. 1836.

Mr. Editor,—As it may be a source of useful information to many, if not all of the readers of your useful journal, to hear something of the state and prospect of the present Crop, and as I feel willing to contribute my aid, (however feeble it may be,) to render so valuable a work as yours

interesting, I will at this time, give you what information I have. I live about the centre of the State; about the first of the month of August, I passed from this to the East, through several counties, I found the season had not been general—that notwithstanding we had had large supplies of rain in this part of the State generally, yet in some of the counties through which I travelled, the crops were almost burned up. A severe drought had set in after the heavy rains in the spring, and had almost ruined their crops in some places. I returned, a few days ago, from a trip through the Western part of the State, passing from this to the Chatahoochee river, I extended my route into Alabama. I found the Corn crop generally good, in most of the counties through which I passed, but the Cotton crop I found greatly injured by the rust. This disease appears much worse the present year, than I have ever seen it—in some places it appears to have almost entirely cut off the crops of Cotton. In this section of the country, at this time, there appears to be a formidable enemy attacking our Cotton, to wit:—a worm that not only penetrates the tender boll, but cuts off thousands of the bolls and scions, so that although we have a larger weed than usual, it is greatly to be feared, that the crop will be very short. In addition to the above, we have had, for some time past, such incessant rains, that most of our fodder has been greatly injured, and as we are not in the habit of making and saving any hay, the loss of fodder will be very sensibly felt. Still we have great cause of gratitude, that our Corn crop is good, which is, after all, the gold dust to the farmer. Wishing that every one farmer throughout our country, would patronize your valuable work, I subscribe myself, respectfully yours,

ALEXANDER M'DONALD.

On the conduct of Overseers and the general management of a Plantation.

Savannah River, Sept. 7, 1836.

Mr. Editor,—Please to allow me to make a few remarks, through your journal, to the friends of agriculture, and I hope you will pardon my weak expressions, bad diction, and spelling; for what education I have got, was from the labour of my own hands, and you may suppose that a poor

man, to leave his father's house, with but 25 cents in his pocket, and have to work for a maintenance, as well as a little learning, could not be expected to get much, but I will say no more in the way of preface, but give you a few plain remarks.

I am frequently perusing your valuable journal, and in your March number saw an extract of an address delivered by Mr. Seabrook, before the United Agricultural Society of South-Carolina. It is from some remarks which he has made concerning overseers, that has occasioned me to take up my pen. He there mentions, that from the sickness of the climate, the planting interest in the low, and unhealthy part of the state, has to be left to the overseers, and the great responsibility which is devolved upon them, and the great chance that they have to abuse it. I agree with the gentleman, that it is a responsible office, and one the abuse of which causes the ruin of many in a great degree, and therefore I would say to those, be choice in selecting a man for such a responsible situation; get one of tried fidelity, if not of your own trying, of your neighbour's trying. If you cannot have his entire services, join your interest with your neighbour, so far as to have a competent man to look over your business. There are many men that embark into the overseeing business, for an easy life; they are too lazy to work, and for that reason they will try to get an overseers birth. He is willing to live for a small salary, rather than go to the plough handle, and he calculates he can there indulge himself to his satisfaction.

His wages are low, and he is not going to exert himself on that account; he is at the height of his ambition, he does not care whether he establishes character as a planter and manager, or not; neither does he care whether he accumulates any property for himself, or not; for I have known men that have been overseeing for several years, at a fair salary, and have not added $500 to their capital in the time, and depend upon it, a man that can make himself so easy as that when self-interest is at stake, is not going to do much for his employer; but if the employer cannot see for himself, it is little worth while to try to open his eyes. There are many of them, that can employ a man for a reduced price, and because they get him for a trifle, they will keep him: at the same time, he takes no interest for his employer. He can amuse him-

self with his gun and dogs every day ; he will say, my hands are at their task, and the drivers are there, and they can see the work done. They are at every gathering there is in the neighbourhood, and indeed I have often thought there was but little difference between he that attends to his business and he that does not; for the man that enjoys every amusement, and is every week three or four times in town, appears to be employed and gets wages equal with him who sticks close to his business. The driver makes the crop and the overseers get the credit. But I am not so fortunate, for I find my driver wants some watching too, in order to make him have the work done in a proper manner. But some employers will kindly submit to this kind of management, and their crops will gradually decrease; the lands are getting in bad order—all work that is done is badly done; there is no permanent work done; it is all done with a view to the present, and so it goes on from year to year, until his plantation is desperately out of order—the negroes completely spoiled, and when the owner sees ruin staring him in the face, then he begins to think of a change. I will now get a man that I think I can place confidence in; this man is employed, he goes on the plantation; every thing is out of order, the negroes have been allowed to have their own way, and the overseer begins against wind and tide, to bring every thing right again, and at the end of the year, if the crop is not as good as Mr. ——'s crop, who has always kept his land in good order, and the overseer has done notwithstanding, all that man could do, under the same circumstances, to get it in order and make a crop, and then I say, if he should ask a little more money, he is told, I cannot afford it, my crop is not as good as Mr. ——'s crop, I cannot give such high wages. But he did not say a word all the time it was going down hill, and his negroes getting spoiled, which takes time to rectify. He wants every thing done in one year now, that has been five or six and it may be eight or ten years neglected. These things are not hid from the employers: they certainly can see whether this man has done his best, or not, for his interest, and to put his place in order, and his negroes under good discipline, which is of the greatest importance; and if he is a man that you can place confidence in, give him the helm and watch what course he steers, and you may soon see whether he is master of his business, and if he is, my

friend, whoever you are, do not let a little money part you, for you cannot count up the loss such a man as that, would be to your plantation.

I wish you success in your journal, and really do think that every planter and farmer ought to be subscribers, and I have tried to prevail on some to subscribe to the work. Some think of doing so, and others say they cannot afford it—but I will tell you a secret, if you won't make a blowing horn of it:—If they would drink a little less grog, and chew a little less tobacco, they might pay in advance for the journal, and never regret it. Excuse my long epistle, and if you think it worth inserting, you can do so. I am, &c. A WELL WISHER.

Something which will pay for the reading.

Mr. Editor,—The subject of this communication is of much importance to planters generally, and to some it is ruinous. No just man desires more than his due, therefore none will be offended, if I show debtors how they may avoid paying unlawful interest, under cover of law; nor will any have just cause of offence, if in doing this, I show they have innocently, because ignorantly, received what they are not entitled to. The law of this State has declared seven per cent. shall be paid on liquidated debts, either as damage done the creditor by unlawful detention of money due, or as compensation for the use of money. All credits settle down upon one or other of those points. Interest cannot be charged annually, except upon a special contract. It cannot be added year after year to the principal, and become capital as fast as it falls due, making interest accumulate interest annually. This is ruinous, for by multiplying payments and compounding the interest as often as a payment is made, the bond will double itself in a surprisingly short time; or in other words, the debtor will owe, or have paid, double the sum in a very brief space. Bonds have been so calculated, and so paid. A special bond, contracting to pay the interest annually, should be calculated in the following manner, or in such other form as will produce the same result. It should be borne in mind, the interest due on the bond, carries simple interest only, and cannot be added to the principal annually. I shall give the simplest mode of calculation, be-

cause most easily understood; those conversant with figures, would adopt a shorter, but equally correct method. We will take for example a bond for $20,000, payable in 5 years, with interest annually; whether the principal be payable in five equal annual instalments or not, the rule and the result will be the same.

Bond 1st Jauuary, 1831, (interest annually from date,)			$20,000
Interest due 1st, Jan. 1832,	$1,400		
" on $1,400 to 1st Jan. 1836—4 years,	392		
		$1,792	
" due 1st Jan. 1833,	1,400		
" on $1,400 to 1st Jan. 1836—3 years,	294		
		1,694	
" due 1st Jan. 1834,	1,400		
" on $1,400 to 1st Jan. 1836—2 years,	196		
		1,596	
" due 1st Jan. 1835,	1,400		
" on $1,400 to 1st Jan. 1836—1 year,	98		
		1,498	
" due 1st Jan. 1836,	1,400	1,400	
			7,980
☞ Amount of Bond at maturity, 1st Jan. 1836,			$27,980

The above calculation supposes nothing paid. If payments have been made, all the creditor has to do in addition to the above, is to state the payments and allow interest on them, from the dates when made, to the 1st Jan 1836; on which day I assume the bond to have been paid. This will do justice to both parties. The creditor will have received his money with interest annually, and also simple interest on the annual interest, and the debtor will have had the advantage of stopping interest on the several amounts paid. This is sheer justice. If money is worth interest at all, it is worth interest to both parties to the bond, and the manner of calculating it should be such as to give, while you take. I will now show you a simple bond or note of $14,000, and twelve payments, within three years, and the general mode of settlement:—

Bond or Note 1st January, 1831, interest from date,		$14,000
Interest to 1st April—3 months,	$245	
1 Then paid.	245	
Interest to 1st July—3 months,	245	
2 Then paid,	245	
Interest to 1st October—3 months,	245	
3 Then paid,	245	
Interest to 1st January, 1832—3 months,	245	
4 Then paid,	245	

Amount brought forward,		$14,000 00
(5) Paid 1st April,	895	
Interest to that day—3 months,	245	——650 00
		13,350 00
(6) Paid 1st July,	1000	
Interest to that day,	233 62	—766 38
		12,583 62
(7) Paid 1st October,	500	
Interest to that day.	220 21	—279 79
		12,303 83
(8) Paid 1st January, 1833,	500	
Interest to that day,	215 32	—285 68
		12,018 15
(9) Paid 1st April,	1000	
Interest to that day,	210 32	—789 68
		11,228 47
(10) Paid 1st July,	1000	
Interest to that day,	196 50	—803 50
		10,424 97
(11) Paid 1st October,	1000	
Interest to that day,	182 44	—817 56
		9,607 41
(12) Paid 1st January, 1834,	1000	
Interest to that day,	168 13	—831 87
☞ Amount due and unpaid, 1st January, 1834,		$8,775 54

Thus, in three years, $7,875 will have been paid, which the creditor could again put out on interest. The debtor fancies he had stopped interest on the sums paid, but no such thing. He has stopped interest on only $5,224 46, while the creditor gets it from another on $7,875. It has been said, interest must be paid first. This is a truism which needs no repetition, for we all know, if this is not done, the principal cannot be reached, and of course can never be extinguished. It is the mode of calculating the amount due, of which I complain, and would guard the debtor. If a planter pays $1000, is it not good to the creditor for $70 per annum? If so, ought not the debtor to have the benefit of it? If he is not, then he would do well to lend his money, as he may be able to spare it, to those who will pay him interest, and when his bond is due, pay the entire principal and interest together. By examination of the foregoing calculations, it will be found the

debtor pays interest on the interest already paid: as for example—on the 1st April, 1832, the interest amounts to $245. The debtor pays on that day $895, but he stops the interest on only $650. It is evident, that as he is not allowed interest on the whole sum paid, he continues to pay on so much of it as is not carried out, and subtracted from the principal; in other words, he pays interest on the interest already paid, and makes a simple contract more oppressive than a special bond. In effect, the interest is compounded every time a payment is made. While the planter pays the interest according to his contract, let him demand as matter of right, the full interest on the sums he pays, or returns to his creditor. I have shown the rule for calculating a special bond, (or one carrying interest annually,) and will conclude this by showing one for the settlement of ordinary bonds or notes, which is as perfectly consistent with law and equity, as it is plain and simple. Every planter who can tell how much a bale of cotton of 300lbs. weight, at 65 cts. will amount to, can count interest as well as his creditor. If there is one who cannot, and is content with his ignorance, let him be gouged, well and deeply as he deserves.

RULE.—State the sum, and calculate the interest on it from the day it begins to accrue, up to the date when the debt is fully paid. Then state the different payments and charge the interest upon them, from their several respective dates to the day the bond, or note is satisfied or taken up. By this means, full interest will be given the creditor, on his entire claim, and allowed the debtor on his payments. Both parties will have justice done them, and if they are honest, will be satisfied.

I have troubled you with these hints, thinking they may be useful to *some* of your readers, and because *I know* there are some men, who will receive interest on the principle of my calculations upon the debt of $14,000; but will pay it only according to the rule I have just stated. The saving of interest is to the planter's purse, what manure is to the soil, and I trust he will find the time, he devotes to the examination of the subject here offered to his consideration, pleasantly as well as profitably employed.

TRUTH.

Legal knowledge for the Planter—Wills and Testaments.

Mr. Editor,—The Planter should know something of Law, for the same reason that it is desirable that he should have some acquaintance with the theory and practice of Medicine. The distance at which he usually resides from a city or town, often renders it impossible for him, in case of emergency, to procure legal aid. If for example, he has neglected to make his will, until he has been brought to his death-bed, unless he have some knowledge of his own, as to the making and execution of his will, upon which he can rely, he will be utterly unable to make such a disposition of his estate, as he would desire to do. Of course, we cannot expect to introduce him to the minutiæ of a subject so complicated and full of detail; but we think we can throw together some plain practical instructions, which may stand him in need in the hour of extremity.

Do not think we are actuated by any selfish motive, when we lay it down as the golden rule in this matter, that if it be practicable, you should always resort to your professional adviser before making your will. Any candid lawyer of experience will tell you, that there is hardly any cause which has occasioned more litigation, delay, ill-feeling, and pecuniary expense to families, than men's making their own wills. It may be noticed that our statute of descents and distributions makes, in case of intestacy, as fair and equitable a division of the intestate's estate, as can well be devised. So that it is perhaps much better that you should die without a will, than make one which will in all probability occasion a law-suit.

Wills are favored in law, and will always be sustained and carried into effect according to the *intention* of the testator, if this can be done without contravening any of the express rules of law. No particular form is necessary to a will, and any writing which sufficiently appears to have been intended as a last will and testament, will be carried into effect as such, provided the formalities of the law as to its execution, (which we shall take occasion to explain hereafter,) be complied with. The *intention* of the testator is the first and great object with the courts; and although technical words are sometimes made sub-

servient to this object, yet as a general rule, they are construed according to their legal import, on the principle that this is the best and safest mode of discovering and fulfilling the *intention.*

By an Act of our General Assembly, no words of inheritance in wills are necessary to convey an estate in land in fee-simple; if therefore you devise your property, whether real or personal, to another, without using any further words, or expressing any contrary intention, it goes to him absolutely and forever. Thus, for example, if you say in your will—"I give and devise to my beloved son John, the plantation whereon I now reside," John, as the law now stands here, will take the plantation out and out. If, however, such be your intention, it is best to express it in this form—"To John and *his heirs and assigns* forever." If you wish to give an estate for life, you must say so expressly; thus—"I give to my beloved wife Jane, my house on Edding's Bay, to her and her assigns *for and during her natural life,*" or in some similar form. The words "*heirs,*" "*heirs of the body,*" "*issue,*" &c. must not be used, unless you wish to convey a greater estate than for life, because they are words of inheritance. If, however, you wish to make a strict settlement of your property among your family, I would sincerely advise you, that rather than attempt it yourself, you should let the law make your will. Great skill and practice in the drawing of wills is necessary to make the expressions "*heirs,*" "*heirs of the body,*" "*dying without issue,*" and "*dying without leaving issue,*" convey precisely the estate intended by the testator.

It would perhaps have been more in order to have touched first on the subject of the payment of debts. As an honest man, you should certainly make it your first care in making your will, to provide a sufficient fund for the payment of all just claims and demands on your estate. He who does not so, it has well been said, *sins in his grave.* But should you neglect to do it, you know very well that the law will do it for you, according to its own order. The law subjects both your real and personal estate to the payment of your debts, but the personal estate must be first exhausted for that purpose, before resort can be had to the real. If therefore you wish to invert this order, and to subject your lands for instance, first to the payment of

debts, you must by express words or plain intent exonerate your personal, and charge your real estate with the same. I presume you are acquainted with the distinction between real and personal property. Houses and lands are real estate—money, mortgages, (being only securities for money,) negroes, goods, leasehold estates, &c. constitute personalty.

By our law the requisitions for passing both real and personal property by will, are precisely the same. The will must be in writing, signed by the testator, or some agent in his presence and by his directions, and attested and subscribed in his presence, by at least, three credible witnesses. In order to be safe, the testator should sign and seal his will in the presence of three witnesses, and tell them that he publishes the paper as his will, and wishes them to witness it. They must sign *in his presence*, or at least where he can see them if he wishes, and the best form of attestation to which they can set their hands is the following, which should be annexed to the will—"Signed, sealed, published and declared by the above named testator, as and for his last will and testament, in the presence of us, who in his presence, and at his request, and in the presence of each other, have hereunto signed our names, as witnesses thereto." There are many decisions as to what is sufficient compliance with the requisitions of the law on this subject, but he, who adheres to the above instructions, will avoid all difficulty.

As law is rather a dry subject, and in the view of some, a nauseous draught at best, I will not overload you with it in the first paper. In the next, I propose to continue the subject, explaining and simplifying as much as the nature of the subject will allow. I do not expect to make you a lawyer; but I may drop hints, which if properly improved, may possibly save your estate from becoming the prey of litigation, and your heirs, the victims of the "glorious uncertainty of the law." Y.

Palma Christi.

Mr. Editor,—I have noticed a communication in your invaluable periodical, wherein Caleb recommends the culture of the *Palma Christi*. Now, as I have been for some time anxious to know, what the value of the raw

material would command, and know very little about the process of making oil, could you, or some of your correspondents, inform an inquirer, what would be the probable worth of the raw bean, *cleaned* or *uncleaned?*—could it be *exported*, and to what part of the world most profitably?—what would be the best way of putting the seed up, in bags or barrels? Answers to the above queries, would oblige AN INQUIRER.

P. S.—A plain way of making the oil for plantation use, I would be glad to learn.

Dieting, &c. of Negroes.

Mr. Editor,—Every one acquainted with the habits of Negroes, knows them to be an improvident race, and if left entirely to the guidance of their own will, would very soon, (even in this country,) sink to the state of savage barbarism, from which their African ancestors were removed. It is a fact well known to thousands dwelling in towns and villages, and to every keeper of a road shop, these lazy beings will not only plunder their masters, but deprive themselves and their children of the necessaries of life. Nothing is more common than for them to sell their food, and in fact any thing upon which they can lay their hands, for the purpose of procuring grog and tobacco. The consequence is as destructive of their health, as of their owner's interest. It appears to me, every slave owner can at very small charge, greatly promote his own advantage, while he improves the condition and happiness of his people. Every planter, who has provisions served out in a raw state, may be positively assured, a portion at least, will find its way to some place, where a market can be had for *any thing*,—from a tenpenny nail to a gold lever watch. Such places are as easily found in the country, as in cities. It is within the power of every planter, to prepare the food of his Negroes, and his own interest should prompt him to have it done. Trees and saplings grow every where, and of them the planters can frame buildings, (rough ones,) for the shelter of their Negroes *en masse*. Have this done, and in the immediate vicinage a nursery of similar construction, should be set up. The first should be an eating department, and adapted to the seasons and changes of weather; the last to the

use of children, and invalids capable of exercise. To effect all this, the planter has but to purchase a few boards and nails; his own grounds furnish him the other materials. A bell, or horn, should at certain hours summon the hands to breakfast, and again to dinner. After the latter meal, they should return to their work, and continue at it till the accustomed task is done. This plan of feeding a plantation, will enable the proprietor to allow many indulgencies or gratifications, which the usual mode of distributing provisions will absolutely deny his people. It will assure him, all have a sufficiency of wholesome food, instead of having their stomachs gorged with whiskey, or pepper-heated and tobacco-coloured rum. Not having their provisions within power of sale, one incentive to visit a town or road-shop, will have been removed, and the effect of this, will evidently be advantageous to both master and slave. The location of the eating-house and nursery, will of course, be such as will secure the greatest convenience to the working-hands, in taking the children to and from the nursery, morning and evening, The sick must be cared for, as formerly, but I cannot conceive the possibility of the attention required by them, interfering with the arrangement proposed for these in health. There is, or ought to be, on every plantation, one or more charged with the care of the young and the sick. There are frequently may too feeble or old for active employment, who may be judiciously and profitably employed, if my suggestions be adopted, instead of being a mere tax to their owners. They can cook for themselves and all others, see that the children suffer no harm, and that they are fed at proper times. This will insure the health of the children—so far as sustenance can insure any thing. The parents will have the satisfaction of seeing their children full and cheerful, and of taking their own meals, without the vexatious trouble of preparing them. After meals they will return cheerfully to their labours, and in the evening will return to their houses with their children, and the remaining provisions of the day, enjoy healthful sleep, and in the morning, rise with blithsome spirits, prepared for labour and usefulness. Try this plan, and keep your people at home, by permitting them every innocent amusement; let them *sing*, *dance*, or *preach* if they like—but let them not go to shops when they please. I would

say this to all planters, and more—I would say such a course would go far, and very far, towards destroying the negro trade, against which the legislature fulminates so much puerile thunder. To LEGISLATORS, I would say, *lay the axe to the root*—your bolts are harmless, because your powder is weak—make licenses no less than *one thousand dollars;* your powder will then be *good* and your bolts *effective.* Let them dare to do this—the good, the orderly, and the best citizens, will nurse their popularity.

But to return to the planters, of them I would ask a very serious consideration of my suggestions. I would inquire, whether they are or not, morally responsible for crimes, into which their slaves are led, or driven, by their negligence or mismanagement? I have given but the outline of a system of management, which will assure the planter the raising of a greater number of negroes born on his estate, the protracted lives and labour of the healthy, and the usefulness of many, who are and will continue to be a tax, under any other course of management. The details, and mode of establishing a general plan, must vary according to localities, means, and the judgement evinced in the selection of the one, and the application of the other. No planter, I venture to warrant you, Mr. Editor, will ever regret fairly testing this scheme.

Your obt. servt. A SOUTHERNER.

Queries on Corn Planting.

St. Luke's, Aug. 13, 1836.

Mr. Editor,—This I send to inform you, or any of your correspondents, that I am a tolerable Cotton planter, but a very sorry Corn planter; partly owing to my lands being poor, but more especially my not knowing how to apply the compost manure. I invariably make short crops of Corn, though I make a great deal of manure every year. I have applied the manure in various ways—under the Corn, and around it when ripe; but am sure, generally, to *fire*, or burn it, so as to make the under blades burn up to the ears, before the Corn is near filled. Now, this is what I want to avoid, and hope you, or some of your correspondents, will be kind enough to give me such advice as to enable me to do better next year, in the corn way, and oblige A SUBSCRIBER.

We will give *our* views and experience on the matter, upon which "A Subscriber" requires information, hoping, if he be not profitably answered, some one or more of our esteemed correspondents will give the problem a good share of attention, especially as it so seriously affects the production of bread—the staff of life. We say to him, we attribute the firing of his corn to the *undecomposition* of the vegetable matter in his compost. We have seen corn manured with stable manure (of course *well trodden* and the components of it decomposed and *incorporated*) and corn manured with cow-pen manure (the vegetable matter not entirely decomposed)—the latter fired, while the former did not. Manure partially decomposed is the best in wet weather; the plant gradually takes up its aliment from it. The growth from decomposed manure will be most vigorous at first, but at the end of the season the growth of the other will be far superior. It is best to place compost under the corn, to avoid the action of the sun, which exhales its strength—moreover as the roots of the corn tend upwards, they catch the aliment as it ascends, and are not so liable to fire from contact, with the fermenting matter. So with cotton seed (which we think the best manure known for corn) unless one plants very early in the season, and anticipates a late frost; then the cotton seed on the top, will keep the roots of the plant warm, and induce a second growth after the first is nipped. This is our opinion; but the planters of the middle country indiscriminately use manure both above and below the corn with success; this much is certain, that manure placed above, keeps down the grass nigh the roots of very young corn. It is the practice of some in the middle country, to cover their sandy lands about three or four inches deep with clay, and turn them under with the plough. This not only forms a soil, but assists the manure, and saves the corn from firing, since clay retains moisture a very long time. In confirmation of this practice, we do not remember ever to have seen, or heard of corn manured with indifferent cow-pen manure, or with any manure at-all, firing in clay land—that is, we could always trace the firing to some other cause than the manure. The planters of the middle country, have been inundated this year with rain, and while the sandy lands were fired, the flat clay soils, properly drained, exhibited throughout the

season, corn green and vigorous. We should also mention, that swamp or vegetable pond muds, incorporated with the sandy land as *well* as is done with clay, are good for a crop without manure, three or four successive years. They are too cold for short cotton the first, but very productive the second year. May not our correspondent fire his corn, in his manner of working it? He may plough too deep and cut the roots of it, or he may allow the grass to grow too high, and turning this to the roots of the corn, it decomposes immediately and fires—and this he may do in very hot, immediately after wet weather, which will *invariably* fire the corn. Manure above, or below the corn, is far preferable to the mode of placing it around the plant—this practice will assist manured corn, more especially if the manure be cotton seed. We have known this experiment tried in Barnwell district this year—it was not completed, owing to the destruction of the corn by cattle before it came to maturity. The soil was sandy, but trodden down for three or four years. The following manures were used:—

1. Two hills manured with clay.
2. Two hills lime above.
3. Two hills lime below.
4. Two hills corn in the lime.
5. Two hills stable manure above.
6. Two hills stable manure below.
7. Two hills cotton seed above.
8. Two hills cotton seed below.
9. Two hills corn in cotton seed.

In each hill were two stalks. The corn was planted 1st of March, and the weather had been so cold, that many of the planters had to replant. We should also add, that rain was very spare after a cold spell of three or four days, had passed off. The corn manured with lime, as might be expected in sandy land, was sickly. The stable manure at first, took the start of all the others—then the cotton seed above; but by the time the corn was four feet high, the cotton seed under was more vigorous than any of them, affording a thicker stalk; but not so rich a green as the clay. Unfortunately for a knowledge of what would have been the result, cattle broke in, and as before mentioned, destroyed the whole. We hope "A Subscriber" will himself make the experiment, and by means of better fencing, or greater watchfulness,

insure a result, both conclusive of his own doubts, and beneficial to planters generally. A good cotton planter, should not despair, of becoming also a good corn planter. "I will try, Sir," as well befits the planter as the military commander—that celebrated answer modestly promises *every thing*, but guarantees *nothing*.—*Editor.*

On Ginning Cotton, for a late Market.

Charleston, Sept. 27, 1836.

Mr. Editor,—As it is a very common practice, with some planters, to hold back a part, and sometimes the whole of a crop for a late market; I would avail myself of your very useful work, to direct their attention to some matters, of which it is possible, some may never have heard, or reflected upon. The object in retaining any article, is to obtain an advanced price. To effect this in Rice, it is essential the grain should be kept in the rough, and come to market fresh beat. The advantage newly beaten rice has over that, which has been kept a considerable time after cleaning, is so well understood, I will make a few remarks on Cotton, the only other article of importance, which we grow for market. I believe it is a very common opinion, that cotton is not injured by keeping, unless kept an unreasonably long time. A little reflection, will convince those holding that opinion, that it is not supported by facts. The facts, are what I intend to offer to the planter for reflection, leaving his faith and conduct to the guidance of his, perhaps better judgment. It is known to all, some water is used in packing, and consequently, the bale just from the gin, is a few pounds heavier than it will be found, if weighed after thorough drying, or evaporation of the water. This ends the subject, so far as preparation for the manufacturer is concerned. But the loss in weight, does not cease with the drying away, or evaporation of the water. It is progressive, and will continue so, till the fibres become perfectly dead, and rot commences. This loss of weight is in itself of no great importance to the grower, but it proves incontestibly, a corresponding deterioration in *quality*. As it loses its essential oil, it becomes dry, harsh, and weaker; and finally, when that oil is exhausted, the rot commences. These positions are *undeniable*. Every day deprives this article of a portion of vitality, and diminishes its

value to the grower, and the manufacturer. This is true of both ginned and unginned cotton, but especially so of the former. Let as much seed cotton of the same quality, be set aside as will make twenty bales. Gin ten on the 1st of November, the remainder on the 1st of June, and bring the whole to market. The result will be, that any practical buyer will not only discover the difference, but will value the first ginning much less than the last. This loss in price is to be added to that of weight. When this is done, the planter will discover it to be good policy to keep the cotton intended for a late market, in the seed until the last moment. The reason it seems to me is good and plain, for separate the wool from the seed, in any manner you please, the fibres are every one sundered in one place at least. Each fracture facilitates the escape of the oil, or life in the wool, (cotton) while not the least particle is replenished, by extraction or absortion of oil from the seed. That which is kept unginned remaining as taken from the pod—every fibre perfect—is not liable to, and cannot suffer the same injury, or loss, in either weight or quality, for as long as the wool remains attached to the seed, and the seed is alive, so long will the wool absorb or extract oil or life from the seed. When the essential oil of the latter is exhausted, both will go into dry rot, as the ginned cotton has very long before done. Minute as are the fibres of cotton wool, each one is like a sponge, each has its own proper duct, communicating with and deriving sustenance from the pith, or heart of the seed. If this be true, no farther argument is necessary to prove the advantage of not ginning cotton held for spring, or early summer market, till it is intended to be sold. If any one can prove the opposite, I shall not be displeased, for I am not so wedded to my opinions that I cannot abandon them. I think, however, there is no merchant in this city, buyer or seller, who cannot by sight discover a difference between three samples of the same cotton, ginned at intervals of six months. I do not pretend to say, he will discover that the three samples are all the same cotton, but ginned at different times. If he is made acquainted with the fact, he will arrange them in the order they came from the gin. If sight is not sufficient, he will call to his aid the sense of feeling. These two senses will not, and cannot fail, making the required discrimination. If the same samples should be

offered him, with a request to say whether or not there is a difference, and if so, to point it out, he will (if a good judge) do so in double "Egyptian darkness," and will not only aver there is a difference, but will take them for different cottons, and tell you the second ginning is better than the first, and the third is better than either. Crush the samples in the hand, and the resistance of one, contrasted with the pliancy of the other, will decide the ginnings or qualities are not the same. But there is no use in dilating upon the art of sampling. Good buyers understand me. If the planters do not, I am not surprised, because too generally they think their own the best cotton made, without troubling themselves to compare with their neighbours, or even the produce of one with another, of their own fields. Let them practice sampling, and they will soon be as wise as we are, much to the satisfaction of the factors, and of us who buy. The *factors* will not be blamed for difference of prices obtained, when the censure should lay on the cotton, because that grown on Mr. Blue's place was so stupid, as not to be finer than that produced on Mr. Cream's. *We* should be gratified, by finding greater uniformity in the brands called "crack." I should think it as much their business, to understand sampling cotton, as to know how, and when to plant the seed. That is nothing to me, however. I intend to benefit them and myself too, by gently hinting, it is best for all parties that cotton should be sold *dry*, but *fresh* from the gin. Wishing the planters and yourself a good harvest, I am, dear sir, your most obedient servant,

A MERCHANT.

On Overseership and Professorship in Agriculture.

Effingham County, Georgia, September 22, 1836.

Mr. Editor,—I have been in the habit of reading your useful work from its commencement. Am glad to see the attention of proprietors of plantations and farms invited to attend more *immediately* and *personally* to the agricultural interest. The subject of Overseership and Professorship, is frequently alluded to;—and thereby am led also, to offer a few thoughts on this important subject. You may either permit it to pass the gauntlet, or throw this paper under the table.

The agricultural art is paramount to every other;—for, by cultivating the earth, its inhabitants are principally supported. But the knowledge of this art moves in the rear of almost every other. Is not this a paradox? Why is it so? Is it because the parts connected with it are more complicated than every other, and has more drudgery included in it than any other? And—is not the pride of mortals very much in the way? Here I might make a bow,—and say, *very* much in the way, Mr. Editor. Hence, the sciences of Medicine and Law mount their steeds, and, John Gilpin like, speed amain, and forthwith leave that of the Agriculturist out sight. And, even the Mercantile art strides his poney, with his silver-headed cane, and gallops ahead with a side-way glance on the poor Farmer,—as much as to say, I'm ahead of you, ye poor summer-Oznaburghs-tribe!! And, forsooth, these become mortified, and seem to be at their wit's end, having no answer, except some quaint one, like the following—Only let our sons go to College, be dub'd with a diploma:—They shall mount your platforms, beat you with your own sugar-sticks, and arrange us, at least, in the corners of your Levee-parlours. Heigh-ho—All a farce. No, Sir—let the Agriculturist stand erect, take courage, and speak as the importance of the occasion may require. And, facing the Doctor, the Lawyer and the Merchant, he might address them to the following purport:—Gentlemen, never has the world been graced with a more honourable class of men, than you are, in your respective departments—it is even admitted, that mankind could not well do without your services;—but I have this to add—each fraternity of you is likely to be overstocked*—is *now* over-stocked. Many young men, educated with an eye to Law, Medicine, or Merchandize, are placed in a Druggist Shop, Law-Office, or Counting-House—their probation expires—they set up for themselves—all are dependant on the community for patronage. The community *cannot* patronize all—the number is too great, if even their qualifications are equal—many *must* fail. It may be, that the greater part have not been taught to work with their hands. The resources of many have become exhausted in procuring their education.

* This is the view of this subject, taken by the late Matthew Carey, of Philadelphia, in a book entitled The Olive Branch, written about the year 1813--'14.

Live they MUST. WHAT ARE THESE TO DO? While ye pause—I'll proceed. The cultivation of the earth is essential to the support of its inhabitants. Let this be a front axiom in national economy. Upon it, fix this principle,—That it is as honourable to handle a farming implement, as to adjust a medicine-chest, regulate law-maxims, or ship and unship merchandize. So much for his address. If these views are correct, it will not be difficult to prove—and to prove clearly, that Agricultural education should have had a prominent Department in our Colleges and Universities, from their commencement in our country. Instead of which, our public bodies, and even private individuals of note, are hard to wake up to this all-absorbing subject! Sir, there is a secret in Agriculture, with which gentlemen should be willing to become acquainted. It is—TO DESCEND UPWARD. Do you think, that when Cincinnatus returned from fighting for his country, to his farm, that he stepped into his field with his regimentals on? Or, that when the Student of Law came to Judge* —— to be admitted to the Bar, and found him in the field at his plough, that it was with the habiliments of a Judge? It would seem, as if he could not well bring himself to believe, that the man at the plough was the man he sought—for he inquired of him for the Judge. The dignity of the Farm is above all professional vestments. It laughs at sattins, silks and broadcloths—and soon gives to gold and silver buttons another tinge. It honours the man, appropriately clad, whether in homespun, or otherwise, who enters the field with spirit, handles any plantation tool which the moment calls for, and feels himself at home. This is true Republicanism:—laying aside all squeamish pride—wrapping itself in the mantle of industry, it enables its possessor to look with *confidence* on the beggar and the king, and all between. He feels at all times, what candidates for office would seem to allow to their voters on election-days—namely: That, on *his* trade, all other callings and professions depend.

If then, true, genuine Republicanism is to be maintained, (and who desires to destroy it?) let every true

* The author, we doubt not, will readily perceive the propriety of our omitting the name, and the note appended to his communication, expressive of his predilections, when we remind him the object of this work is the advancement of Agriculture.—(ED.

American wake up to this subject, and let there be an Agricultural Professorship established in our Colleges and Universities, generally, forthwith; and let the same stand as the pole-star Professorship* to all the other arts and sciences, causing the stream thereof to flow into the Overseership, elevating its character, and making the elements subservient to its sway. So shall the earth produce from ten to an hundred fold, and thereby enrich all the other arts and sciences. But I have said enough, and too much, unless I had said it better. It requires a master-mind to put forth all its powers, and to keep the same on an incessant stretch, like that of Gen. Washington in the Revolutionary War, to bring the *feelings* of the community fully up to the *soil*-stirring point.

A SMALL GOSHEN FARMER.

Correction for Caleb in our last.

Pineland, Sept. 10, 1836.

Mr. Editor,—I should have been quite delighted at seeing myself in print, but for the ugly scratch you gave me across my face, which effected so material a change in my (before comely) phiz, that I hardly knew myself. I was made to say, Indigo is prepared from the plant "riadigofera tinctoria." This is a capital error, misleading, instead of directing the inquisitive mind, in the search after knowledge. You will do me a favour by referring to the manuscript, where you will find the true reading, is *indigofera tinctoria*. Please make the correction in the form of an "errata," or any other you prefer. In a few days I shall be at leisure, and will amuse myself again, by preparing an article for your highly useful Journal, notwithstanding you *expunged* all I wrote upon the advantage of cultivating the Poppy, and making Opium for market. I take it "in good part," as I am sure you must have judged that course best, and will explain when we meet. Your well-wisher, &c.

CALEB.

* I would add (softly at first) including Manual Labour.

PART II.

SELECTIONS.

The Cholera—its symptoms and remedies.

[FROM THE CHARLESTON MERCURY, SEPT. 9.]

To the Editor of the Charleston Mercury:

Sir—I beg leave to transmit you for publication the most important portions of an interesting pamphlet on Cholera, published in 1832, by Dr. Hawthorne, physician to the Belfast Hospital, which was brought in the autumn of 1834 to the United States, by Mr. Ogilvie, the highly esteemed Consul of his B. M. in South-Carolina, and by whose kindness, and that of a common friend, I am enabled to lay it before your readers.

One month's observation incident to the exhibition of one hundred cases of Cholera among my own people, during the entire month of September, 1834, on the Savannah river, enables me, as far as a man not belonging to the Faculty may be permitted to speak, to say that in a short compass I consider Dr. Hawthorne's treatise to be decidedly the best account both of the disease and its treatment I have any where seen. His experience was most comprehensive, for in no part of Europe were the ravages of Cholera more extensively disastrous than in Ireland; and Belfast felt, in an especial manner, the weight of this severe visitation.

I have omitted the preliminary historical synopsis of the disease, which affords in a condensed view, an exceedingly curious and instructive account of its travels and different characteristics in the several places in which it appeared, but confined my extracts to the practical parts of the essay, susceptible of immediate usefulness.

Before concluding, permit me to remark, that from my own observation I entirely concur with Dr. Hawthorne in the opinion that opium, in its different exhibitions, forms the great basis of the cure of this disease. There is but one better remedy for the planter, and this is *a sovereign specific. If the disease breaks out in your settlement, retreat to the highest and driest pine land within your reach.* Do not wait to make unavailable experiments with this or that medical remedy, under the vain hope that you can harvest your crop and have a cholera hospital too on your plantation. Your safety is in removal from the reach of swamp miasma, which gives a venimous acrimony to this fell malady.

The little authority, not to say ridicule, attached to the medical reflections of the *unprofessional*, admonishes me to forbear my own speculations, the more especially when I can refer your readers to the far more able and intelligible statements of the admirable physician whose observations are subjoined.

A SOUTHERN PLANTER.

Prognosis.

FAVOURABLE SYMPTOMS

Commencing with cramps of the voluntary muscles; heat of skin, at or above the natural standard; pulse soft, full and strong; little thirst; bilious vomiting and purging.

UNFAVOURABLE SYMPTOMS.

No pain or cramps at the beginning; pulse small and feeble; heat of skin below the natural temperature; tongue a pale white, clammy, flowing with saliva, cold, relaxed and broad, having apparently lost all contractile power; suppression of urine; serous, or watery purging and vomiting, and no smell emitted from the discharges.

In offering a few observations on the favourable and unfavourable symptoms, I would remark, that the disease, at least as it has appeared here, has assumed four distinct states of morbid action, which differ materially in point of malignancy; and these four, as far as I have been able to observe, embrace all the forms of the epidemic. I shall take them in the order in which they appear least dangerous.

1st—When the attack commences with spasms of the stomach, bowels, and voluntary muscles; heat of body at the natural temperature, with a strong full pulse, and slight retching or vomiting alone, if properly treated, there is no danger whatever.

2d.—The next in point of danger, is where the disease begins with pain of stomach, less or more severe,—oppression about the præcordia, head ache, numbness of the extremities, with a prickling sensation over the skin, succeeded by vomiting and purging,—in some cases, of bilious matter,—in others, of whitish-coloured stools.

3d.—A much more dangerous form of the disease commences with a violent pain of the stomach, increased on pressure; intense pain across the forehead, and in the eyeballs; face flushed; pulse quick, hard, and bounding; a painful sensation felt over every part of the body, similar to that experienced at the commencement of fever; heat of skin increased to a morbid degree, tongue exceedingly white, deeply coated, and forrowed; intense thirst, with deadly sickness at stomach; vomiting and purging, first of the natural contents, after which, of stools of a greyish white colour, granulated, and mixed with particles resembling powdered ochre, and emitting a peculiar and intolerably fœtid odour, exceeding any thing observed in almost any other disease.

Though this is not the most rapidly fatal form of the disease, still, it is fraught with great danger, requiring prompt and active treatment, and the recovery may be more tedious than even where it has assumed the most malignant type.

4th.—In the last, and, according to our arrangement, most fatal form of the disease, viz.—where the attack comes on with giddiness of the head, ringing of the ears, vomiting and purging, first of the natural contents, then of a fluid resembling thin mucilage, or barley water—pulse small and feeble—heat of skin below the natural temperature, without any cramps or pain,—there is the greatest danger; and if the disease be not almost instantly checked, the patient may go down into collapse in less than one hour, and the disease may terminate fatally in three or four. That the most rapidly fatal attacks commence without any pain, or cramps, or previous warning whatever, I wish to be particularly understood, as I have seen much of the lamentable consequences of an error of opinion in this respect; the patient

imagining that it could not be the disease with which he was affected, because he had no pain or cramps, when, in point of fact, it was the most dangerous and fatal form of it; and, when the cramps did come on, they were only the fearful harbingers of collapse and death. To sum up the whole, I would observe, that the danger, in every case, bears a proportion to the rapidity and amount of the discharges by stool, and *vice versa*.

METHOD OF CURE.

Cholera, like all other diseases, should be treated on rational principles, varying the remedies according to the symptoms, and modifying the doses of the medicines, as the necessity of the case may require.

The first object of the Physician, in the treatment of every malady, should be, to find out what diseased action tends, either directly or indirectly, to destroy life. When he has ascertained this point, it will at once occur to him, that the method of cure should consist in the removal, or counter action of that morbid action. That the cause of death in Cholera, in almost every case, proceeds either mediately or immediately, from the escape of the serous, or watery part from the blood is a truth, demonstrated both by the symptoms which manifest themselves before death, and by the appearances on dissection; and that fluid is carried off in the discharges by stool, is equally well ascertained. Having established these positions, therefore, it will require no arguments to prove, that the first step in the treatment of the disease, should be, to stop those discharges.

In offering a few remarks on the treatment of Cholera, it may tend to facilitate our object, to give a list of the formulæ which we have been in the habit of using here, and which have proved so successful. They are as follows:—

1.—ANTISPASMODIC PILLS.

Camphor, half a drachm.
Opium, twelve grains.
Cayenne Pepper, six grains.
Spirits of Wine, and conserve of Roses; of each a sufficient quantity. Mix.

To be made in a mass, and divided into twelve Pills.

2.—ANTISPASMODIC MIXTURE.

Sulphuric Ether.
Aromatic Spirit of Ammonia.
Tincture of Opium; of each a drachm.
Peppermint water, two ounces. Mix.

3.—CORDIAL MIXTURE.

Brandy or Whiskey, and Cloves.

Should the patient have vomiting, and serous or watery purging, five grains of solid opium to an adult, or as many of the antispasmodic pills as will contain the same amount of that medicine, should be instantly given, and washed down with a glass of hot Brandy or Whiskey punch. The body should then be covered with additional blankets, and the usual means of communicating heat, applied to the feet and different parts of the body, so as to restore the temperature, and produce profuse perspiration as quickly as possible. When the purging ceases, the pulse becomes full and bounding, and the body is covered with a copious warm sweat, in ninety-nine cases out of a

hundred, all danger is over, and the individual may be well next day. The hotter the skin becomes, when covered with sweat, the better, and I would add, the less the danger. The great secret in the treatment of Cholera, is, to lose no time in stopping the discharges, and in exciting warm perspiration. This object should still be kept in view by the practitioner, no matter in what state he may find his patient. After giving such a dose of medicine as may stop the purging, his next effort should be, by the external application of heat, to produce a discharge from the surface. If, when called in, the heat be higher than natural, the perspiration will equalize the temperature; if lower, it will restore it; and, if the body be covered with a cold clammy sweat, it will change it to a warm one. It is remarkable how suddenly the pain of stomach, præcordial oppression, head ache, and spasms of the voluntary muscles, if they existed, are relieved, on the breaking out of the perspiration; and what is of equal, if not of greater importance, is, that the vomiting in almost every case, immediately ceases. As little drink as possible should be given, until the perspiration has flowed freely for an hour, after which, copious draughts of warm toast-water, flavoured with ginger, may be taken as hot as it can be let down. The sweating, if the patient can bear it, should be kept up for at least twelve hours, and may with advantage, be continued moderately even longer. Should one dose of the medicine fail to stop the purging, more should be given, or an enema, composed of half a pint of starch, with an aqueous solution of four or five grains of opium, or a drachm of laudanum, should be given, and its return resisted till it has had time to produce the desired effect. I have frequently seen the aqueous solution of the opium retained, after the spirituous tincture had been rejected. *So much for Whiskey Injections.* It is remarkable how much opium may be taken in the early stage of Cholera, without producing headache or drowsiness. When symptoms of congestion have appeared, however, particularly in the brain, that medicine, if used at all, should be handled with the greatest caution. If the purging has been quick and violent, the bowels should not be disturbed for twenty-four hours after it has been stopped, and should then be gently opened by a mild laxative enema; but in case the vomiting return after twelve or eighteen hours, and the stomach reject food and drink, the bowels, as already directed, should be opened sooner, and if the patient complain of acidity on the stomach, as often happens, it will be proper to give him two tablespoonsful of the following mixture every third hour.

Calcined Magnesia, two drachms.
Peppermint Water, eight ounces.
Sweet Spirit of Nitre, an ounce.—Mix.

This mixture will neutralize the acidity in the stomach, act gently on the bowels, cleansing the tongue, and cooling the system, and will promote the return of the heat by secretion of urine, which is generally suppressed in this disease. It is besides a valuable remedy in the consecutive fever which so often succeeds a severe attack of Cholera.

The bilious vomiting, which so frequently occurs in the consecutive stages, may be relieved by giving five grains of calomel, combined with half a grain, or a grain of opium, and following it up with a laxative enema; and should bilious diarrhœa succeed, it may be cured by the cretaceous mixture, combined with suitable proportions of the tinctures of catecha and opium, and if obstinate, by anodyne injections.

When the attack commences with cramps of the stomach, bowels, and voluntary muscles, an ounce of the anti-spasmodic mixture, in a glass of water, may be given with advantage, in addition to the pills and other auxiliaries already prescribed in the first stage, and repeated if necessary as circumstances may require. Provided the mixture should fail to remove the cramps of the stomach and bowels, a cloth soaked in spirits of turpentine applied over the parts affected, and covered over with roasted salt as hot as it can be borne, will give relief in a few minutes.

Should the practitioner find his patient affected with pain of stomach, headache, cramps, and vomiting alone, and discover that the bowels have been previously confined, he ought before giving the anti-spasmodic pills or draught, or any preparation of opium, to cause them to be unloaded by means of an enema. This object being accomplished, two of the pills and an ounce of the mixture, with the other remedies recommended, will generally be sufficient. It is scarcely necessary to observe, that the quantity of opium must always be regulated according to the necessity of the case. In a case of severe purging, an efficient dose of it should be given at once. This is much better than giving it in divided portions, for, if the discharges follow each other in quick succession, one of these portions may be carried off unobserved, before another be given. In this way, the practitioner calculating the quantity he has administered in a given time, may bewilder himself, and lose his patient. When there is much vomiting, the opium, whether alone or combined, should be given in the solid state, as in this form, it is more likely to be retained, and if rejected, the circumstance will be the more easily detected, and the practitioner will be thereby enabled to judge of the propriety of repeating the dose. Where there is purging without vomiting, as sometimes happens, the opium would act more immediately, if given in the form of powder.

In the collapse stage, opium should be very sparingly used. If in that stage it be required to stop purging, an aqueous solution of it may be given in the form of an enema, combined with half a pint, a pint, or even a quart, of thin starch, and as before directed, its return resisted, until it has had time to produce the desired effect. In this stage, the most powerful remedies are, forcing in heat by external applications, frictions, sinapisms, stimulants of ether and aromatic spirit of ammonia,—cordials and cupping where symptoms of congestion may appear, particularly between the shoulders, and along the course of the spine. Scarification and cupping at the back of the neck, where it joins the head, might be useful in the fatal coma that generally precedes death in the collapse stage of Cholera.

I would here observe, that the external application of heat should not be deferred until the cooling down of the body would appear to render it absolutely necessary; it should occupy a place among the first remedies that are used. Perspiration appears to be a powerful agent in the cure of Cholera: by determining to the surface, it relieves the stomach, bowels, and other internal organs, from the injurious rush of the fluids, contributing materially to the stopping of the vomiting and purging. From extensive experience, I have found, that much less medicine is required to relieve those symptoms, where by the hot applications, sweating is procured. The physician need not perplex himself looking out for sudorifics; for the plan I have recommended, if employed in proper time, will never fail to produce, in a few minutes, a profuse diaphoresis.

Consecutive fever is of rare occurrence, unless the patient has either gone into collapse, or approached very near to it, and scarcely ever, if there has not been considerable purging. Many die in this fever, after having apparently escaped all the horrors of the disease; by properly supporting the strength, however, and attending to the state of the stomach and bowels, they may in general be piloted through.

With regard to the use of calomel and bloodletting in Cholera, so much practised in India and elsewhere, I would remark, that, while I would condemn an indiscriminate or Sangrado use of these, or any other remedies, as downright empiricism, I would at the same time, denounce, as equally empirical, and besides dishonest, any man who would deny that cases may occur in this, or in any other disease, where the use of either or both may be necessary. Every well-informed physician will admit, that a disease which assumes such a variety of character as Cholera does, and which, during the prevalence of the epidemic, must act on such a variety of constitutions, will present modifications, where great morbid excitement, tending to inflammation, may require the use of the lancet, and also, where derangement of the biliary secretions, and other circumstances, may suggest the propriety of using calomel.

In glancing at a few of the symptoms that might require these remedies, and also the circumstances which would appear to contra-indicate their use, I shall be very brief.

Where there is bilious vomiting, with constipation of the bowels, in the consecutive stages of Cholera; moderate doses of calomel may be usefully employed. Calomel combined with opium may also be given with advantage, in the beginning of the disease, where there is bilious vomiting, and no purging; but under no other circumstance, have I ever observed any advantage to arise from the use of that medicine, farther than what might be derived from the opium with which it was combined. Where I find a simple medicine to answer the end, therefore, I never think of using a more formidable one.

When the disease commences with violent pain of stomach, increased on pressure; heat of skin above the natural temperature; a painful feeling over the body, and cramps, of the voluntary muscles, with a pulse, full, strong, and bounding, in a young plethoric subject, where little or no purging has taken place, good effects may be produced by a moderate bleeding; though I have scarcely ever felt any difficulty in relieving those symptoms by the use of the remedies recommended in the foregoing sheets. Should any fixed pain or cramps continue in the stomach or bowels, after the perspiration has flowed freely, they may be almost instantly removed by a synapism, or the turpentine cloths. When there is vomiting, and serous or watery purging,—the heat of the body below the natural temperature,—the pulse small and feeble, without pain or cramps, no man, who knows any thing of the pathology of the disease, would reccommend bloodletting. I am not aware, however, of any one who would prescribe the use of the lancet under such circumstances.

The inflammations which occasionally occur in the stomach, bowels, and other organs, in the consecutive stages, arise principally from congestion, and will be best treated by sinapisms, fomentations, and local bleeding with leeches.

Blood-letting does not appear to have any effect in preventing or removing the local congestions that take place in this disease, as they are caused chiefly by the excess of fibrine, rendering the blood too crude to circulate through the different organs.

Finally, I would observe, that, however useful other remedies may be as auxiliaries, opium is the sheet-anchor in this disease.

I do not conceive it necessary to go farther into detail, my object being, merely to explain the general principles, as, in the application of those principles to individual cases, and to the varied forms of the disease, much must be left to the judgment of the practitioner. When the physician finds, that the safety of his patient depends on the immediate stopping of the discharges, should one dose of medicine fail to accomplish that object, he will see the propriety of either repeating the dose, or of giving such a proportion of it as the circumstances of the case may seem to require.

I have thus described what appears to me to be the most rational and the best method of treating Cholera. From the situation I occupied, as senior medical inspector for the Belfast Board of Health, it must be taken for granted that I have seen much of the disease, and of its treatment, I therefore flatter myself, that my opinions on the subject, are entitled to some weight. The mode of treatment recommended in these observations has been employed here this year by myself and others, with unparalleled results. Where a man's sounding the trumpet of his own praise, and boasting of his success, not degrading to any profession, I might adduce some stubborn proofs of its success; but, there has been too much puffing, and *worse* than puffing of late, by ignorant practitioners, who are anxious to thrust their insignificance into notice at any hazard. I think it my duty however, to state, that I have never seen any person die of Cholera, nor even go into collapse, where the plan I have suggested was adopted, and vigorously acted on in proper time. Much of the success of any mode of treatment must depend on the time it has been employed; I have been called to a number of collapse cases, since the epidemic commenced here, some of which I cured and others would have baffled even Dr.——himself, who cured cent. per cent.

I will not insult the profession by hinting that a *learned* pamphlet recommending whiskey injections, requires any refutation, as, at least to the medical profession, it bears on its front sufficient evidence of its own absurdity, to render it perfectly innoxious.

Virtues of Lime as a Manure.

[FROM THE FARMER AND GARDENER.]

We mentioned before, the excellent essay on this subject, by M. Puvis, in a pamphlet form, and promised to give the very able *introduction*, with which the edition is prefaced,—from the pen of Professor Renwick, of Columbia College, New-York. It will be found below, and will more than repay the reader for the time devoted to its perusal; for it is in truth a most luminous paper, replete with intelligence which every farmer should be in possession of. His explanations of the constituents of soils and the mode of action of lime, upon peculiar soils, are both so plain, that none who wish to comprehend them can mistake their import. For ourself we are gratified to find gentlemen of Professor Renwick's distinction putting their shoulders to the wheel in support of the cause of agriculture, as, besides the brilliant lights which are thrown out by them, the influence of their names is of incalculable value. We should not omit mentioning that the public

are indebted chiefly to James Wadsworth, Esq., of New-York, for the edition of this excellent work.—*Ed. Farmer and Gardener.*

"The chemical facts and principles which are applicable to agriculture, are neither numerous nor complete. They are, however, to be found only in works on general chemistry, in which they are intimately associated with laws and phenomena of a more abstruse description, and in connection with which they constitute a science of which the most learned are still students, and to attain which in its existing form, may require years of close and attentive study. The language, too, of chemistry, which, to those who study it in a regular course, serves as an artificial memory, and single words of which call up long trains of thoughts and experiment, presents to the uninitiated all the difficulties of a foreign tongue.

Yet it cannot be doubted that the practical farmer may derive important benefit from acquiring so much of this language as will enable him to understand the chemical explanation of the numerous changes which are continually taking place in the natural actions which it is his high privilege to call into his service, to direct in part, and modify in degree. So also certain chemical elements and compounds, with the properties of which he ought to be acquainted, if he wish to be able to direct his practical skill with more effect, even in circumstances familiar to him, but which may be absolutely necessary, or will at any rate save waste of labour and loss of time, when the knowledge acquired by practice in one place is to be employed in a new situation, and under a change of circumstances.

It is the object of this introduction to exhibit, in such a form as may be intelligible to those who have not made general chemistry an object of study, a concise view of such of the laws and facts of that science, as are absolutely necessary for the agriculturist who may wish to improve his practice, and which are more particularly required by those who wish to avail themselves of the knowledge contained in the subjoined essay. To do this has been found no easy task. It would be in itself difficult, but to the author of this introduction has been more particularly so, as he has for years been in the habit of imparting instruction to those whose habits of life and thoughts are as remote as possible from those of the practical farmer; persons to whom the peculiar language of chemistry is an aid instead of an impediment, and who, with ample time at their command, have an opportunity of pursuing the study of all the science step by step. Fully aware of these difficulties, both general and peculiar, this attempt would not have been made, and certainly not persisted in, had it not have been for the instances of an intelligent, scientific and successful farmer, who has urged the completion of the task as an object likely to be beneficial to those, who, with perhaps equal zeal and native powers of mind, have not enjoyed, like himself, the advantages of a scientific education.

The atmosphere which surrounds our earth is the first object to which our attention should be directed. This is the vehicle of the moisture, which, whether it fall in the form of rain or dew, run in streams or issue from springs, is absolutely essential to the success of the farmer's labour. It is also, as we shall presently see, important to him on other accounts.

The greater part of the atmosphere is made up of a mixture of substances, each of which has the same mechanical properties as the

whole mass. These air-like substances are known to chemists by the name of *Gases*.

Of these gases, two make up by far the greater portion of atmospheric air, and exist in it in the proportion of about four to one. That which is the largest in quantity, and makes up nearly four-fifths of the whole atmosphere, is called, in the Essay of M. Puvis, by the name of Azot, but is more usually known in English by the name of Nitrogen.

The substance, although in the largest proportion, is the least important of the gases in its chemical effects. It does not aid in supporting the life of animals, nor in maintaining the burning *(combustion)* of inflamable bodies.

The part of the atmosphere which is absolutely necessary for these purposes, is called by the name of *oxygen*, and nearly makes up the remaining fifth part of atmospheric air. In its support of life it always, and in maintaining combustion often, unites with a chemical element, which is called *carbon*. This is familiarly known as forming the principal part of charcoal. In its union with carbon, oxygen forms a peculiar gas known by the name of carbonic acid.

Carbonic acid is always found in small quantities in the atmosphere, to which it is furnished by the breath of animals and the fumes of burning bodies. It is, when in considerable quantities, fatal to the life of animals, but is prevented from accumulating to an injurious extent in consequence of its being taken up by water; it is, therefore, dissolved, in proportions about equal to those in which it is formed, by rivers, lakes, the ocean, and the moisture of the soil.

Water exists in the atmosphere in the form of vapour. The great source of this vapour is the extended surface of the ocean, and it is governed by a mechanical law, by which it is continually tending to distribute itself uniformly over the whole surface of the earth. It may thus exist in as large quantities over the surface of the dryest land as over that of the ocean itself. The tendency to equal distribution is continually counteracted by the changes in the sensible heat *(temperature)* of the atmosphere, and of the surface of the earth, which follow the alternations of day and night, and the vicissitudes of the seasons. By these alternations and changes, the vapour is caused to fall *(precipitated)* in the form of rain, snow, hail, dew, or white frost, according to circumstances. As such changes of temperature are more frequent on the land than on the ocean, the water which falls on the former in either of these forms, is greater in quantity than that which falls on equal surfaces of the latter. Thus by a wise and benevolent Providence, the water of the ocean is continually furnishing vapour, which is precipitated on the land for the support of vegetation, and the supply of springs, and whose excess is poured back into the ocean in streams and rivers.

Water has been found by chemists to be a compound substance, made up of two elements. One of these, which forms eight-ninths of its weight, is the gas already mentioned under the name of oxygen; the other, a peculiar gas, known by the name of *hydrogen*.

Hydrogen, when free, is the lightest of all known bodies, rising and floating in atmospheric air; it not only combines with oxygen, to form water, but with carbon, to form a great variety of compounds—gaseous, liquid, viscid, and solid. It also combines with nitrogen, and forms a gas known by the name of ammonia, which is well known by the peculiar smell it gives to spirits of hartshorn *(liquid ammonia.)*

Hydrogen also combines with sulphur, forming a gas known by the name of sulphuretted hydrogen. This exists in the atmosphere, but in such small quantities as only to be detected by the nicest chemical tests. It combines in like manner with phosphorus, forming phosphuretted hydrogen gas, whose presence in the air is occasionally perceptible.

Oxygen, as we have seen, unites with carbon, to form a gas which we have called carbonic acid.

This receives the latter part of its name from its similarity in properties to an extensive class of compound bodies, known by the name of *the acids*. The greater part of these, like carbonic acid, are combinations of inflammable bodies with oxygen. The most important of these in reference to our present object, are the sulphuric and phosphoric acids, named from the two substances (sulphur and phosphorus) which are their basis. Muriatic acid may also be mentioned here, although its composition is of a different character. Oxygen unites with other bodies to form a class of compounds known under the name of oxides.

The acids unite with earths, alkalis, and metallic oxides, to form a class of compounds known under the general name of salts. These are named from the two substances which enter into their composition; thus, the salt formed of sulphuric acid, and the earth lime, is called sulphate of lime. The substances which unite with acids to form salts, are called the *bases* of the respective salts.

Of these bases, the alkalis, it is only necessary to know the names of two, namely, *potassa* and *soda*, and to be aware that their distinctive properties are, to possess an acrid taste, a caustic operation, to render oils capable of mixing with water, and to neutralize the properties of acids.

The earth which the chemists call by the name of silex or *silica*, is found almost pure in flint and rock chrystal; it is also almost pure in sharp colourless sands, and is by far the larger part of sands of every description. So far as the farmer need know its properties, it is hard, rough to the touch, has no attraction for water, which it permits to filter through, or evaporate from it, with the greatest ease. It is capable of uniting with the other in compounds which are called silicates, and is the only earth which enters into the formation of soils uncombined with the others or with other elements.

The earth which chemists call by the name of *alumina*, is so named because it is obtained by them in a pure form from the well known salt called alum, of which it is the basis. Its most marked characteristic is plasticity: that is to say, it may be formed into a paste with water, will then easily receive any form which may be given it, and retain that form unaltered, even by violent heat. It never exists in soils unmixed, but in intimate association, or more probably chemical combination with silicia, it is the well known substance called clay, or argillaceous earth. White clays are this combination nearly pure, and coloured clays often contain it with no other addition than metallic colouring matter. Clay retains the plastic property of alumina; it therefore causes soils to be retentive of moisture; and when they dry, make them form tough clods or crusts, similar in character to sun-dried brick.

Soils which contain clay are often also mixed with sand, or with an excess of silica in grains, which does not enter into the composition of the clay. Such a soil is less liable to form a tough crust than a

pure clay, but it will require a very large proportion of sand to destroy this property altogether.

Clay mixed with sandy soils render them more retentive of moisture. Sand and clay have therefore been used as manures for each other; but it may reasonably be doubted whether all the advantage that has been anticipated by some from this process, can be realized, as such a mixture will be merely mechanical.

Loamy soils are generally said to be mixtures of sand and clay; they undoubtedly usually contain both these earths; and even sometimes a large excess of sand. But we shall give reasons for believing that loams owe their peculiar value to a combination of clay with another substance, by which a change is produced in its chemical characters.

Lime is familiarly known by the same name that is generally used by chemists. It is obtained by the aid of heat from rocks, which go by the name of limestones. These are combinations of lime with carbonic acid, which is fixed in them by chemical attraction, but which, when driven off by heat, takes the same form as the air of the atmosphere, or becomes a gas. The gas, from this circumstance, has been called *fixed air*, by which name it is often known when causing the sparkling and froth of cider and beer. The principal part of limestone is therefore called by chemists *carbonate of lime*. Carbonate of lime is also found in shells, both those of living animals and those which exist in the ground in a fossil state. In the former it is mixed with animal matter, which is more or less separated since the death of the shell-fish.

Marl, in the sense in which the term is used by chemists, is a mixture of clay with carbonate of lime. The English writers on argriculture have not observed this distinction, and the term is sometimes applied by them to a decomposed chalk, which may contain little or no clay: and sometimes to clay which contains no carbonate of lime. In fact, the name is frequently applied by them to any earthy matter found below the vegetable soil, which is capable of increasing its fertility. From this misapprehension, the substances which go by the name of marl in New-Jersey, Maryland and Virginia, do not correspond with the chemical definition, but are generally beds of fossil shells mixed in various proportions with earthly and saline matters of various kinds.

Lime is a substance very different in its character from the two earths of which we have previously spoken. When prepared by heat from any of the original forms of its carbonate, it retains their shape unaltered, but may have its colour changed, and always loses considerable in weight. It is now acrid, caustic and corrosive, and alkaline. Of these the most important is, that it unites with acids to form compounds included in the general class of salts. Of the salts of lime which are important to the farmer, the three principal are, the *carbonate*, which, as we have stated, is found in lime-stone, chalk, and marl; the *sulphate*, in which lime is combined with sulphuric acid, and which in combination with water is the substance so well known to our farmers under the name of plaster of Paris, or less familiarly by that of gypsum; the *phosphate*, which constitutes a part of the bone of animals.

Lime, when exposed to the air, attracts carbonic acid, which is always to be found in the atmosphere: it thus passes back to the state of carbonate, but in so doing gradually falls to powder, and is then

said to be *air-slaked*. If slaked with water, it also falls to a powder, which still retains the caustic character of the burnt lime; but this powder, when exposed to the air, unites with carbonic acid more rapidly than when in mass.

Lime, in its caustic state, has the property of rapidly decomposing vegetable and animal substances, thus hastening the natural processes by which they are finally destroyed; or, to speak more properly, have their elements resolved into new combinations. The offensive and unwholesome gases, which are given out by this composition, are absorbed by the lime, and probably by its other compounds; but in order that either this earth or its compounds shall manifest this property, they must be in small fragments, or, which is better, in fine powder.

Wet sand and plastic clay, and those soils to which they give their characters, also possess the property of absorbing gases; but they have this in a very inferior degree to lime and its compounds. As the gases degenerated by the decomposition of vegetable and animal substances form a large part of the necessary food of plants, it is obvious that a soil which contains the carbonate of lime, may retain and store them up for use, while they will be lost in soils of a different character.

Carbonate of lime may be also made a most important article in the preservation of the most valuable parts of putrescent manures, until they can be applied to the soil. In this way marl is applied to a great extent in China; the night soil of their numerous population is there formed into cakes like bricks, with marl, and thus loses its offensive smell; but when these are applied as manure to the land, they give out the gases again as they are required for the nourishment of plants. So also in Norfolk, the site for dung-hills is prepared by a layer of marl, which is incorporated with the manure from time to time, and retains the gases which would otherwise be lost.

Lime may therefore be applied in its caustic form in some cases in agriculture, for it will hasten the decomposition of animal and vegetable matters which might be otherwise inert; it will also neutralize acids, which experienced farmers well know to exist in many soils, which they in consequence call sour. But the latter purpose will be answered as well by the carbonate of lime, which may be applied as it exists in marl or shells, or as it may be prepared by grinding limestone. Caustic lime is also dangerous in its application, for it will corrode and destroy living vegetables, and hasten the decomposition of the vegetable matter of the soil to such a degree as to injure its fertility. Except upon turf bogs, and land loaded with timber not wholly decomposed, quick or caustic lime ought not to be used; but to burn lime, and then by slacking to reduce it to the form of fine powder, which is speedily carbonated by exposure to the air, is a more ready, and generally a cheaper mode of obtaining the carbonate in a convenient form, than to grind lime-stone to powder in mills. Yet for many of the most valuable uses of lime in agriculture, the latter method, if as cheap, would answer as well.

Lime slowly combines with the earth silica, and produces a compound very different in character from either. It is this, to cite a fact in proof of our statement, which gives the sharpness and solidity to ancient mortar. The carbonate of lime will serve to form this compound: and thus, when it has time to act upon sand, it renders a solicious soil more retentive of moisture; while, if applied to clay, by

combining with its silicious matter, it renders it more friable; and it is to the formation of this compound, by slow degrees, that we are inclined to ascribe the valuable mechanical properties of loamy soils, and the gradual amelioration produced by the use of lime, marl, or shells, as a manure.

Besides silica. alumina, and lime, an earth called magnesia is likewise found in some soils. It is also, in the form of carbonate, a frequent constituent of lime-stones. This earth has many properties in common with lime; like lime it is capable of neutralizing acids; and when deprived of carbonic acid by heat, corrodes vegetable substances. It probably also hastens putrefaction, and both it and its carbonate are capable of absorbing gases let loose in that natural process. It is, however, of little interest in agriculture, except as a part of some of the lime-stones which are used in manure. This, if applied in large quantities, are sometimes very injurious to vegetation; the reason of this is, that magnesia does not repass to the state of carbonate as rapidly as lime, and therefore contains its corrosive quality long after the lime has again become mild by its union with carbonic acid. In less quantities, however, the magnesian lime-stones may serve as a manure, but their application requires great caution, particularly when the quantity of magnesia amounts to twenty-five per cent.

All of the simple substances we have mentioned, except perhaps the last, either separate or in various states of combination, exist in plants. The manner and character of the combination is influenced by the vital action of the plant which causes them to form compounds, often in direct opposition to the manner in which the ordinary laws of chemistry would direct. It thus happens that so soon as the plant ceases to live, those chemical laws being no longer impeded, begin to avert their influence; and if it be in such a state as will admit of the several elements acting readily upon each other, a decomposition, more or less rapid, of the vegetable structure ensues. It is a law of chemistry, that its action is always aided by the bodies being in a fluid state, and the action is often impossible when the bodies are perfectly free from moisture. Hence the direct chemical action, and consequent decomposition takes place with greater certainty and more rapidity in green juicy and succulent vegetables, than upon those which have been deprived of moisture either naturally or artificially. The grass, if heaped up in a recent state, decomposes, and if but partially dried, is heated, and may even take fire, by the chemical action of its elements; while, if dried by exposure to the sun and air, and then laid up in a dry place in the form of hay, it is almost indestructible. A moderate degree of heat and access to air is also necessary to promote the chemical action by which decomposition is effected. This decomposition is often attended with motion among the parts: and always, if the mass has a liquid form, as in the expressed juice of vegetables, or in the steeps employed by distillers and brewers, it goes in general terms by the name of fermentation. When the vegetable matter abounds in starch, the first change is the conversion of this principle into sugar. Sugar, if thus formed, is next converted into alcohol, as it is, if previously existed in the plant. The presence of alcohol gives the liquid in which it exists the character of vinous liquors, and if these are permitted to remain in a turbid state, a farther fermentation converts them into vinegar; and finally vinegar is farther decomposed, and the vegetable matter, giving out an offensive smell, is said to pu-

trify. If the substance be not an expressed juice or liquid steep, these several stages of fermentation ensue with rapidity, may be going on at the same time, and are sometimes so speedy in their course, that no other action but the putrefactive fermentation can be detected. Animal bodies are subject to the same laws, and go through the same stages of fermentation, but the rapidity with which they run into putrefaction is even greater; still there are some cases, as in that of milk, where the vinous stage can be occasionally, and the acetic distinctly, observed. Thus, a vinous liquor is prepared in some countries from milk, and the sour taste which appears in it when kept, arises from the presence of vinegar.

In the several stages of fermentation, parts of the vegetable assume the form of gas or vapour, and are given out to the air. The gases which have been detected, are carbonic acid, a gaseous compound of carbon and hydrogen, and in some instances ammonia. The vapour is that of water, which escapes in greater quantities than it would under ordinary circumstances, in consequence of the heat with which the process is attended. If exposed to rain, soluble salts, with earthy and alkaline basis, are washed from the mass. Finally, a mass of earthy consistence alone remains, which on examination is found to be made up of earths, insoluble salts, and carbon, being, in fact, identical with vegetable would.

We may hence infer that the following elements exist in vegetable bodies:

1. Oxygen, developed in the carbonic acid and water.
2. Hydrogen is in the water and carburets of hydrogen.
3. Carbon.
4. Earths.
5. Alkalis.
6. Nitrogen, occasionally developed in the form of ammonia.
7. Acids remaining in the insoluble, or washed away in the soluble salts.

The chemical examination of vegetable bodies ought of course to lead to similar results. This examination has been conducted in three different ways.

1. With the view of discovering the nature of the compounds, called vegetable principles, which exist ready formed in plants.
2. For the purpose of discovering the chemical elements contained in these principles.
3. By the destructive action of heat, under which some of the elements are wholly separated, and others enter into new combinations.

In the first of these methods there have been detected:

1. Certain peculiar acids, of which we may cite
(1) Acetic acid, which, mixed with water, forms common vinegar.
(2) Citric acid, which is found in the lemon and orange.
(3) Malic acid, which exists in the apple.
(4) Tartaric acid, in the juice of the grape.
(5) Oxalic acid, in the wild sorrel.

The Dairy—its Profits; by W. G.

[FROM THE GENESEE FARMER.]

The first object of a farmer in cultivating the soil is profit; and next to this is the desire of securing the first with as little expenditure of labor and means as is possible. To do this the quality of the soil, its

condition, and the size of the farm, must be taken into consideration. Its very situation will in a great measure determine the first; its condition will of course be depending on the judicious or injudicious treatment it has received; and as to number of acres, it is evident that without a certain quantity of them, some kinds of farming, such as grain raising, or wool growing, cannot be profitably undertaken. Perhaps there is no one branch of farming that can be so readily adapted to all farms, great or small, as the dairy; and while it is clear that to raise grain extensively a large farm must be required, and much labor and money expended, a medium farm, one of eighty or a hundred acres will be found best calculated for the dairy, as the hiring of assistants can usually be dispensed with in such cases. For a man with but forty acres to attempt the raising of grain for sale, and at the same time keep the necessary horses, cows and sheep required to cultivate the farm, and supply the family, would be an unprofitable undertaking; but on such a farm a dairy may be kept that will be a source of great profit, when compared with the capital invested.

To make this matter clear, it may be best to make a few estimates, in all cases getting as near well established results as possible, and where any thing must be left to conjecture, always being careful to err on the safe side of the calculation. A farmer wishes to commence a dairy with ten *good* cows, not herd book stock, but good native animals. The price of cows for several years past in the spring of the year has varied from 18 to 22 dollars—we will call it 20—thus making the cost of his cows 200 dollars. For pasturing cows it is generally estimated that two acres to each one will be required; and it may be so as pastures are generally laid down, but where the turf is clean and close and the soil in good heart, we are confident something less will be sufficient to give them every advantage. The interest on the twenty acres required, for six months, the time the dairy will be in operation, at 30 dollars per acre, will be 21 dollars. The interest on the money invested in cows, will be 7 dollars. A dairy maid, if one is required, for 6 months, at a dollar per week, twenty six dollars. The expense will stand thus:

10 cows, at $20 each,	$200 00
Interest on do. 6 months,	7 00
Interest on 2 acres to each cow,	21 00
Dairy maid 6 months,	26 00
Total expense,	$254 80

If a dairy is a cheese dairy, much will be depending as to the receipts, on the qualities of the milk produced, and the skill shown in making. The quantity of cheese produced, varies much in different dairies, and in estimating profits a medium rate must be selected. Mr. Brown, of Otsego county, made from thirteen cows 4700 lbs. of cheese, or 361 lbs. to each cow. Mr. E. Perkins, of Trenton, Oneida county, from 78 cows, made 32,000 lbs., or 410 lbs. to each cow; and in the same communication he states, that the dairies in that cheese-making region vary from 200 to 500 lbs. of cheese to a cow. Some experience in the dairy business, and an acquaintance with a dairy district, leads us to suppose that 350 lbs. to each cow would not be an extravagant estimate. The average price of good cheese when sufficiently ripe for sale, for several years past, has not been less than 8 cents per lb., and many dairies find their sales have averaged 9 or $9.50 per cwt.

Making our estimate at 8 cents per lb,, the receipts of a dairy of ten cows would stand as follows:

3500 lbs. cheese, 8 cts. per lb.	$280 00
100 lbs. butter, 15 cts. per lb.	15 00
Whey for swine, $2 per cow,	20 00
	$315 00

Making the receipts from each cow for six months $31,50—or if we deduct the butter as being most of it necessary in the dairy-room, it will leave the sum of 30 dollars per cow. In some of the best dairy districts of New England, it has been common to dispose of the cows to drovers after the dairy season has closed, but little feeding being generally required to make them good beef. Cows are not as high in the fall as in the spring, by about 20 per cent., and if our farmer determines to sell his cows in preference to keeping them over the winter, they will bring him about 160 dollars. This sum must be added to the receipt of the year, making a total of 475 dollars. The whole will then stand thus:

Receipts,	$475 00
Expenses,	254 00
	$221 00

Giving to the farmer a clear profit of eleven dollars upon each of the twenty acres used for the dairy. It must be remarked, however, that to produce this result, the cows must be in good heart and tolerable order on the first of May, and have good feed for the summer. Cows that "shirked" through the winter, and pasture on dairies, johnswort, and thistles, through the summer, will not reach the above mark, and the owners may think themselves fortunate if the "summing up" should not show a balance the other way.

If the dairy is to be devoted to making butter, there will be but little difference in the result; though if conducted under favorable circumstances, we think making butter rather more profitable than cheese. Many persons, however, connected with the dairy, think otherwise, and the odds at any rate cannot be very great. To make butter through the summer, the dairy must be so situated and constructed, that a uniform proper temperature may be maintained, as it is well known if the temperature is too low, the cream will be so long in rising as to become bitter; and if too high, as in usually the case in the summer, the milk sours before the cream has time to separate, by which much of the cream is lost, and the butter rendered of an inferior quality. In making butter, more is depending on the quality and richness of the milk, than in making cheese. as some cows from the same quantity of milk will give double the amount of cream that others will; and hence the selection of animals must be made with reference to this very point. This fact accounts for the discrepancy shown in the quantity of butter produced in different dairies, and the varying estimates consequently made of the butter each cow will produce in a season. There are some cows that will make a pound of butter a day for seven or eight months, with good keeping, and there are others, that if they give half a pound a day may be considered as doing well.

The breed of cows has a great influence in determining the quantity or quality of the milk. The Earl of Chesterfield a short time since

instituted a series of experiments on some favourite cows of differe n breeds, the result of which was as follows: "In the height of the season the

	qts. milk.	oz. butter.
Holdernes gave per day,	29	38½
Long Horn,	19	25
Alderney,	19	25
Devonshire,	17	28
Ayrshire,	20	34

That there are few if any cows of our native breeds that will approach this quantity of milk or butter, most must be willing to admit: indeed, an able writer on cattle in the Farmer, thinks that few dairies, or cows, in this country, will average more than from 160 to 170 pounds a year. From some experiments we have made, and the reports of some few ordinary dairies for butter, we are disposed to dissent from this writer, and believe that with ordinary care in the selection of cows and the management of the dairy, 200 lbs. may easily be reached. Mr. Curtis, of Marblehead, from common cows and ordinary pasture, for three years, made butter as follows:

1828—8 cows,	1272 lbs. butter.
1829—7 "	1175 "
1830—6 "	1090 "

Which last is at the rate of 181 pounds to a cow, and that under unfavorable circumstances to make the most of the milk. We know of cows that produce a pound a day for at least three months in the height of the season, and that without extra care or feed; still a native cow, to do this, must be good. For three years past, butter, taking the whole season, will average 15 cts. per lb., and calling the amount produced from a cow 200 lbs. the balance would stand thus:

Butter from 10 cows, 2,000 lbs.	$300 00
Skimmed milk, $3 per cow,	30 00
	$330 00

Making a difference of fifteen dollars in favor of butter over cheese making. Where the milk is churned new from the cows, the quantity of butter will of course be greater, but we have never made it in that way, and have no authentic information by which the difference, and of course the profits, can be correctly estimated.

Various estimates have been made of the expense of getting in a crop of wheat or corn; but where wheat is put in after a summer fallow, as is usually the case, the expense of the ploughings, harrowings, seed, interest, and wear of implements and the land, cannot be estimated at less than ten dollars per acre. Admitting the average crop of wheat to be twenty bushels per acre, which must, taking the whole, be considered liberal, and a profit of ten dollars per acre, wheat at one dollar per bushel, which may be considered the average price, will be the result. It would be easy to make a list of the items of expense and profit, but there can be no necessity for it here, as every wheat grower can make the estimate for himself, if he needs to be convinced that the above estimate is not far from the truth. If the crop to be compared is one of corn, estimates made with great care by Judge Buel, Clark, and others, show that in ordinary cases the expense of a crop, including labor, seed, use of land, &c. is at least fifteen dollars per acre. The profits of a corn crop are more variable in our latitude

than most others, sometimes running very high, and at others being literally nothing; and we believe that if the average estimate of profit on an acre of corn is put the same as wheat, it is as high as the experience of the farming community will justify.

If the above calculations are correct—and if they are not we should be happy to have the errors pointed out, by any one practically acquainted with the subject—then the difference in profit per acre between the dairyman and the wheat grower, is not so much in favor of the latter as has been generally supposed. It may however be said, that the practice of disposing of the cows by the dairyman after the season is closed, would in the end be suicidal to the busines if generally adopted, and hence as a general rule the cows must be kept over the winter, making it necessary to deduct from the profits the expense of keeping throughout the winter. This may be admitted, and the result would then be as follows: A cow will eat a ton and a half of hay in the winter, which at the average price of eight dollars a ton, would be twelve dollars for keeping, rather exceeding, if there is any difference the neat profit on each cow the first season. It must be remembered, however, that if the produce of a good cow will pay for herself and her winter's keeping the first season, then the dairyman enters the field on the second year with an unencumbered capital; the cows are paid for, and the entire amount of their produce, with the trifling deductions above stated, are to be counted as profit. Let our dairy counties look at this matter carefully—it is well worth their attention. W. G.

On the Culture of the Grape.

[FROM THE GENESEE FARMER.]

Much has been written on this subject, yet a few short and practical directions on the best mode of obtaining this agreeable fruit, may nevertheless be acceptable.

Propagation.—This is done either by layers or cuttings *Layers* are made by simply burying in earth at the middle, the youngest and most thrifty shoots; this causes them to root at the joints, and this forms young plants. *Cuttings* may be taken from the vine any time between the commencement and latter part of winter. They are best when the eyes or buds are round and plump, the joints short, and the wood cylindrical; these qualities are only found near the lower part of the shoot; the lowest buds of all are imperfect, and should be rejected. Cuttings are always to be of last summer's growth. If they are tolerably short jointed, they may be cut to a length of from eight to twelve inches, observing that the upper bud is plump and good. The lower end is to be cut off half an inch below the lower bud, and the upper one, one or two inches above the upper one. Plant the cuttings by placing them slightly inclined in the ground, and so deep that the upper bud may be just even with the surface. If cuttings are planted where they are intended to remain, it is best to put two in a place, to insure greater certainty of success, placing them a few inches apart, and spreading from each other below, so that one may be taken up without displacing the roots of the other. The soil in immediate contact with the cutting should be rich and very fine, and kept moist until it is fairly rooted, which will be the case when the shoot has grown six or eight inches. As the shoot advances it should be tied to a pole; and all smaller shoots and lateral branches removed with the thumb and finger; keeping a single, clean and handsome stem, which receiving all the nourishment, will become a most vigorous growth.

Cuttings planted late, generally succeed better than those planted early. They should therefore be kept during the early part of spring in a cool damp place, as a cellar or ice house, and occasionally sprinkled with water to keep them fresh, until the temperature of the weather becomes such as immediately to spur them into vigorous and uninterrupted growth.

Soil and transplanting.

The soil best adapted to the vine is a light, rich, deep loam. A very essential point is to have the ground deeply loosened by digging for some feet round the plant, at the commencement of the culture. This indeed would insure success in almost any soil, even the stiffest and heaviest. A rich soil is always best, but manure should never be applied unless it be very finely rotted, and then it should be thoroughly mixed with the earth. If the ground has been manured in former years it will be much better. A very rich soil has a tendency to produce wood rather than fruit.

The same care is to be observed in transplanting the vine as in fruit trees, being very careful, in removing the roots, never to suffer them to become dry; and covering them with very finely pulverized and moderately moist earth. It is important to keep the soil always loose at the surface by cultivation, and never suffer it to be overrun with weeds.

Pruning and training.

The great error with most cultivators, is in a too sparing a use of the knife. Pruning is in general too much neglected, or not freely enough performed, and numerous lateral branches are suffered to grow from all parts of the vine, and sometimes they are allowed to run in the wildest confusion. It is true, the hardy American varieties will grow and bear under almost any culture, but if large fruit of fine quality is desired, pruning is absolutely necessary.

Minute directions are unnecessary, if it is always borne in mind that light and air are indispensably necessary, if it is always borne in mind that light and air are indispensably necessary, and also a thrifty growth. As a general rule, all the smaller branches should be cut away, and only a few of the most vigorous left. The number permitted to remain should be greater as the vine advances in size.

The best time for pruning is late in autumn, but it may be done any time in winter if necessary. It must never be performed in spring, as the copious bleeding at this season would greatly injure if not destroy the vine.

The most convenient way of training, in most cases is upon a trellis; which simply consists of a row of posts about six feet above the ground, along which are nailed three or four pieces of strong lath. Over this the branches of the vine are spread, and tied with bass matting.

Varieties.

Among the best hardy American grapes are the York Madeira and Isabella. The Catawbas an excellent variety, though perhaps not so pleasant to most palates as the two former. The Bland is also worthy of cultivation, although it does not always ripen here early enough to escape autumnal frosts. The European varieties, though some of them excel these in delicacy, require much greater care in cultivation, as it is necessary to protect them during winter from cold, and to renew

the vines by fresh planting every few years, older plants generally producing only mildewed fruit.

There is scarcely any person so situated as not to be able to cultivate at least one vine. Even those who reside in towns and cities, may raise their own supply of this fine table fruit. A late writer on this subject says, "Those who have no room for a single garden bed, may have their clean brick walk under the shade of a vine of luxuriant growth—the expense is trifling, compared with its permanent advantages. I have known a single vine. cultivated in this way, to produce in one single season, fruit which sold for more than one hundred and fifty dollars, and a neighbour of mine, who keeps a shoe store, could show on a vine seven years old, nearly seven hundred bunches of sweet water grapes, well ripened—yet he had no room for a single garden bed, and trained his vine over a brick pavement. Some of his leisure hours were thus innocently and delightfully occupied without any interference with his business."—*Port Carbon Gazette.*

On Mixing other Grasses with Clover, to prevent its salivating the Horses fed on it.

[FROM THE FARMERS' REGISTER.]

Perhaps the following hints on soiling horses with green clover, may be useful to "A Subscriber" in the last No. of the Register. That "clover has an inherent property which causes it sometimes to salivate," cannot be doubted; what that inherent property is, I am not sufficiently skilled in chemical knowledge to determine; but from experience, I am convinced its salivating property may be in a great measure if not altogether neutralized. Having had an opportunity when on the opposite shore of the Atlantic of seeing the practice of soiling with green clover, and the benefits resulting from it as practiced in Great Britain, where the majority of the farmers are in the constant habit of giving it to their working and other horses during the spring and summer months, not only without injury, but with great benefit to the teams so fed—from a very free and liberal use of green clover in that country, I never knew salivation caused to any serious extent, or for any length of time. In this country I have found, and I believe it is very generally admitted, that a very moderate use of green clover oftentimes bring on salivation to an alarming extent. What causes should operate to produce this difference in effect, I cannot probably satisfactorily explain. It is not improbable that a difference in climate might in some measure tend to produce a difference in effect; but from my own observations in the country above alluded to, (and under more than usually favorable circumstances for such observations,) and from my own experience in this country, I should almost unhesitatingly attribute our want of success in this mode of feeding or soiling our horses, to our nearly universal practice of giving clover to our teams in a pure or unmixed state, and too often immediately after being cut, and without the benefit of a partial curing. In Great Britain, it is generally considered that clover alone, either in a green or perfectly cured state, is an unhealthy article of food for horses; to remedy this, it is the common practice when clover is intended for green soiling or for hay, when sown to be mixed with a large proportion of the seeds of other less succulent grasses. For this purpose, the *lolium perenne*, or perennial rye-grass, is the grass

generally, though not exclusively preferred, sown at the rate of about a bushel of grass seed to the gallon of clover seed. When intended for any length of time for pasture, different sorts of grasses are included in the mixture. The above named grass when in a green or growing state, contains nearly as much soluble or nutritive matter, and nearly double the quantity of insoluble matter or extract, that is contained in clover; and the probability is, that the greater quantity of the latter ingredient acts as a corrective to the salivating property of the clover. An instance occurred last season within my own knowledge, which goes far to support the above supposition. On a farm, where I had an opportunity of almost daily observation, it was found absolutely necessary to commence soiling the teams with green clover at a very early period of the season. The clover was pure or unmixed and the consequence was, that the whole of the teams speedily became salivated to an alarming extent. Various supposed remedies were tried without any apparent good effect. After the horses got much reduced and had become extremely weak, they were as a last recourse, turned out to pasture for an hour or two at night, on a piece of ground having a good cover of grass free from clover, partly mixed with timothy and tall meadow oat grass; and though in the meantime their racks were kept plentifully supplied with green clover, in two days salivation was entirely stopped. A wet spell shortly after occurred, when it was found inconvenient, or considered imprudent, to tend the horses for that spell after dark, and it was consequently for some nights discontinued, when salivation again returned, but was again immediately stopped on a return to pasture. A sprinkling of salt on green clover, is generally considered beneficial. Dry wheat straw (that which is sound and sweet,) freely mixed with clover used green for soiling, (such as in this section of country is generally used,) I have found attended with great benefit, and if properly attended to, would, in any opinion, founded on the present as well as former year's experience, fully counteract the salivating property of the clover.

As "A Subscriber" remarks, I have found horses tired of, and sometimes altogether refuse pure clover hay; but I never knew such to be the case when properly mixed with other grasses. When clover is sown for the sole purpose of improving the soil, probably sowing it unmixed may be best; but when intended either for soiling or for hay, much and decided advantage would be derived from a free mixture of other grasses.

In Great Britain, the term clover hay is applied to all hay sown, when so much mixed as to contain from one third to one half of its entire bulk of other grasses, and in many cases, even more.

N. L.

Facts and estimates respecting Beet Sugar.

[FROM THE FARMER'S REGISTER]

In the February No., 1836, of the *Journal des Connaissances Usuelles*, for which I subscribe with much satisfaction, I find an analysis of a treatise on Beet Sugar, by M. Mathieu Dombasle, 1836, *chez Huzard a Paris*, 1836, *prix* 1 1-2 *franc*, 2nd edition.

The facts, in brief, are these:

1000 kiliogrames of beet root, will yield, to a careful manufacturer,

6 per cent of good merchantable brown sugar, or 60 kiliogrammes: which can be refined into excellent loaf sugar by the usual process.

1000 kiliogrammes of beets can be purchased by the manufacturer for 16 francs.

By careful and accurate analysis, 10 per cent of such sugar can be extracted from beets; but six per cent is the usual quantity, and improvements are contemplated that may produce 8 per cent.

The expense of manufacturing 1000 kiliogrammes of sugar from beet root, is calculated at 12 francs.

The residue is worth 3 or 4 francs as food for cattle.

Put this into English.

A kiliogramme is 2 1-5 lbs. averdupois: 1000 kiliogrammes will amount to 2200 lbs.: and 60 kiliogrammes to 132 lbs. averdupois.

A franc, in merchant's accounts, here in America, is calculated at 20 cents, though hardly worth 19.

A sous is the 20th part of a franc, or one cent; or one half penny English. The cost of beet root and of manipulation for 132 lbs. of brown sugar, will be 28 francs: from which, deduct 3 for the residue, and there will remain 25 francs, or 500 cents, the price at which 132 lbs. of sugar can be manufactured, not quite 4 cents per lb.

The French reviewer of the book, calculates the expense at 5 sous per lb. French, which is either 7561 grains English to the lb., or 7717 grains, for both these numbers are found on good authority. The latter I take from Kelly's Cambist. The English lb. averdupois is 7000 grains; hence, there is but little variance between my calculation and that of the French author.

I confess I was astounded at these facts. Sugar from beets at 5 cents per 112 lbs., when cane sugar is nearly three times the price to the consumer in this country.

As to the value of the beets. I think we could afford them as cheap here. I am sure they could be raised for less in the confines of New York and Pennsylvania, where they grow with very great luxuriance.

I lived some years a mile and a half from Altringham in Cheshire, (England.) At Altringham, (a sand hill,) they grow carrots thus. They manure at the rate of 10 lbs. sterling per acre, every 3 or 4 years, purchasing horse manure at 4s. 6d. per three horse load at Manchester. They haul the dung ten miles. They plough with 4 horses as deep as possible. They sow their carrot seed by rubbing together one-third carrot seed, and two-thirds sand, broadcast. They hoe with a ten-inch hoe, leaving the roots about a foot apart. They get from 12 to 16 tons per acre. Arthur Young somewhere talks of 19 tons of carrots per acre. I used to buy them laid down at my door at 4s. 2d. per 250 lbs. weight, not washed. I fed my horses chiefly with carrots, when they were in season.

Pray think a little on these facts. Has not every farmer on rich, light land, a sugar plantation at his door?

THOMAS COOPER, M. D.

Columbia, S. C. July 1, 1836.

Lampas in Horses.

[FROM THE GENESEE FARMER.]

As the season of the year is now approaching, when some people commence one of the most cruel and barbarous practices ever retained

by any people pretending to be civilized—viz: that of burning out the lampas from the mouths of young horses, we cannot refrain from making a few remarks upon that subject.

We are sensible, that some of our most enlightened readers, will say that this article should appear under the head of *vulgar errors;* but yet we have what we consider a reasonable excuse for not putting in there. Most of the articles which have been placed under that head, in our paper, are rather innocent delusions, than partaking of the barbarous; rather superstitious rites and ceremonies, appertaining to property, than any retained usages of the dark ages of barbarity. At what time or with what people this practice originated, we will not pretend to say; but there is one nation, who should either discontinue the practice, or else say less of the general diffusion of useful information; *that is America.*

The idea that the enlargement of that part of the roof of a horse's mouth, is a disease, has long been exploded by all veterinary surgeons. All horses are subject to it, between the ages of three and five, more or less: and in many cases, this soft spongy enlargement, descends to a level with the fore teeth, yet upon examining it, there will not be found any marks of tenderness or inflammation indicating disease; and if left to the operations of nature will disappear, and the horse will have a sound and healthy mouth. Not to speak of the danger of bleeding the horse too freely, by opening the palatine artery, the manner of performing the operation, is shocking to the feelings of humanity, as well as painful to the animal. It is uncalled for, and must be considered a piece of wanton cruelty.

Method of propagating the White or Chinese Mulberry.

[FROM THE SILK CULTURIST.]

1st. Of all methods of propagation, except from seed, that of layers is undoubtedly the best, especially where a rapid increase is desirable. When the stem, or stems of the plant are laid down, they will generally throw out shoots at every bud, and all draw nourishment and support from the root of the parent stock, till separated from it. This gives them an advantage over cuttings, both as it respects increase of number, and size of plants, which no extra cultivation can counterbalance. In all practical cases, therefore, we should prefer layers.

2d. Cuttings should be cut in the spring, before the buds begin to swell, and kept in moss or earth to prevent their drying. Packed in this manner, they may be transported from one extremity of the country, to the other, without damage. They may be cut after the buds have considerably swollen; but in that case, they should not be long out of the ground.

3d. The rule in taking cuttings from the stems, is to have two buds on each,—one for the root, and one for the branch; but they will sometimes send out roots when there is no bud below the surface of the ground.

4th. The shoots should be laid down in the spring, about the time of transplanting. When trees are transplanted for the purpose of being laid down, a good way is to set them so that they will incline towards the ground, and form an angle of about forty-five degrees—then bend them down, and fasten them with wooden pins—leave them uncovered until the buds begin to send out shoots, and from time to time draw the earth over, as they advance in their growth. The

whole, or any number of the shoots may be laid down, as may be most desirable.

5th. If the new shoots attain sufficient size, they may be laid down, and a second crop obtained; but if the season is far advanced, it will be better to omit it till the following spring, when they may be again transplanted, laid down, and their number greatly multiplied. Cuttings from the White mulberry are treated in the same manner as those from the Chinese.

The Culture of Rhubarb.

[FROM THE QUARTERLY JOURNAL OF AGRICULTURE.]

My notice of this exquisite vegetable shall be comprised in a few lines; but these, I trust, will avail to extend its culture more and more; for any thing more productive, salubrious, profitable, and expressly suitable to the purposes of the cottager, can scarcely be found in the entire list of vegetable productions. A few years only have elapsed since the rhubartic hybrid, *green* rhubarb, was cultivated for tarts, and held in very slight estimation; but since the introduction of the larger (giant) varieties, the demand has increased with surprising rapidity. Of the two sorts which I earnestly recommend one, is called, if I mistake not, *Radford's Scarlet Gotiah;* and the other is a small *red* variety, which is crimson throughout when boiled or baked. These will supply the table from April to August, and suffice for every purpose.

Culture.

Let the ground be prepared precisely as for asparagus beds. Select clean offsets, with two or three bold eyes; the first week in March, is a very suitable season. The eyes or buds of the Goliah will be of a deep, rich red, hence its name: the leaves, however, and stalks are green though of different hues, and the latter are spotted and streaked with red. In the smaller *pink* variety the red tint prevails throughout.

The plants of the great Goliah should be set firmly in the soil, five feet apart, or five feet one way and four feet another; the smaller kind may be set three feet asunder, plant from plant, giving a free watering to each to settle the soil among the roots. Dry weather, an open condition of the ground, and a temperate, unfrosty state of the air, should be preferred. When the growth becomes established, the ground must be kept free from weeds; and if dry weather supervene, water ought to be freely given around the roots, two or three times, with intervals of four or five days.

Not a leaf or stalk ought to be touched during the first year; and in autumn, when the leaves are all decayed, they should be laid in little trenches formed along the centre of the spaces between the rows sprinkled with a handful or two of salt, and covered with the earth that had been digged out. Thus the plant will itself furnish a portion of the manure that will annually be required. As winter approaches, a coating of well decomposed stable manure or leaves, or a mixture of both, two or three inches deep, should be laid round each plant, to the extent of two feet; and in the open weather of February, the whole bed must be forked over.

As a proof of the excessive productiveness of the *Scartet Goliah*, I need only mention, that, in the second week of March, 1831, twelve plants were set in ground prepared for asparagus. In June, the leaves met, and the whole plot was covered. In 1832, the plants yielded

profusely, many leaves measured above a yard and a half over the surface, the footstalks being an inch and a half broad, and from two to three feet long. The outside leaves were, as required for use, stripped off by an oblique pull, not cut, the family was amply supplied till July and August, and yet the plants increased; the neighbours also were furnished with *leaves* throughout the summer, and with *offset plants* in the succeeding spring. During the two past seasons the root stocks increased to such a size, that, when it became needful to remove some, it required a barrow to contain the weighty mass that was raised, after great labor, from the soil. If any one try the experiment in favorable soil, and with any thing like judicious management, he will scarcely fail to discover that the growth and production of the plant will exceed every demand that can be justly made upon it.

Breaking Vicious Cows.

[FROM THE GENESEE FARMER.]

Mr. Tucker.—I noticed an article in a former No. describing the manner in which a "vicious cow" was reclaimed. I think such instances very rare, for I have known many men to possess vicious cows for years, who never read nor never thought of their being reclaimed; it was the same thing year after year. They thought as much before hand of the job of attending to them, as of any other work they had to do. Milking, as far as my experience has extended, is considered one of the most, if not the most, unpleasant chores there is to be performed about a family, and above all things a kicking cow is to be dreaded. She is always worse in the worst weather, and one is in danger at every milking-time of losing all the profits of his labor, unless he can content himself to go through with some operation of making her secure where she can do no injury.

I should be very much in favor of breaking vicious cows when it is practicable, but I believe the attempt is seldom successful. I think it is the best way generally to dispose of them for beef, unless a man has a very valuable one, which will well recompense the labor of keeping her. But such an animal as a vicious cow a man never ought to *raise*—there is no need of it. If one necessarily comes upon his hands already made vicious, he is not to blame. I have long thought that there was a great defect in the mode which some farmers use to break their young cows. We never should undertake to milk a heifer out in the lot, or in a corner either of the open field or of the barn-yard, where there is any chance for her to escape, and oblige us to have a *race* before we can again go on with the operation of milking. One such attempt may spoil her for a gentle cow, for she will long recollect it, and will be doubly worse to manage the next time. I have heretofore passed by farm-houses, and seen two or three great lusty fellows to work in this way, paraded around a corner of the yard, each holding some sort of a cudgel in his hand, raised over the apparently harmless young heifer, while she stands to be milked, half scared, and trembling prodigiously for fear of the expected blow. Now this is all wrong, and entirely unnecessary. They very much mistake the nature of the creature—she is not so to be tamed. It is the regular course to make her vicious and ungovernable, and it will need but a few such operations.

I will suggest a plan which I invariably followed for four or five years with triumphant success, and when I changed my occupation, transmitted it to my successor with a special charge not to depart from it—during which time, and since which, (for I have been an eye witness of its faithful fulfilment,) I did not know, nor have not known, one single subject of its operation but what was or has been of the most harmless and peaceful disposition, so that man and boy, woman and girl, all, could perform the task of milking with equal ease and in equal security, either as it respects themselves or their pail of milk. And in such a case, every cow must not have her particular milker, whom when he is necessarily absent, or in any wise rendered incapable of performing this his ordinary labor, it requires two or three a half of an hour with clubs and stones, racing to and fro across the yard, to obtain her milk, or else she must go unmilked until her former master returns, or is sufficiently recovered to again enter upon his task. Some may have been acquainted with the plan long ago, but many to my knowledge do not now know it, or if they do, do not practice it:—Drive the heifer and her calf carefully into the shed or stable, tie one end of a rope loosely around her horns, fasten the other end firmly to some post or staple, giving her a short play, and there let her stand. Mind and not take her into any strange place, where cattle are not used to going. If she was accustomed to be led when a calf she will stand still, if not, she will flounce around very briskly a short time at the length of the rope, but soon finding by experience that all is fast, she will immediately cool down. Then place before her a little mess, and commence milking while she is eating. Let there be no whip about—let there be no noise or blows, but every movement around her gentle and still. When the operation is completed, carefully untie her, open the door and let her out. One person is sufficient for the whole. Two is one too many, especially if she is a little wild, which however ought never to be known among a farmer's cattle. She is now a cow, subdued and manageable,—all it requires is a few more such lessons, and I have the confidence to believe, from some experience too, that with a proper milker she will ever afterwards remain a gentle cow. She will be perfectly tame, so that you can lead her as well as a horse, and approach her in the field as well as in the yard.

There is a fault with some of our farmers in trusting the breaking of their heifers, and in fact the whole care of their cows, to boys. As a general thing they are not competent to perform the labor as it should be performed. It is often the case that they will get fretful while milking, and punish the cow most unmercifully when it is not due. The man should keep an eye to these things, and see that all goes on in a proper manner. There is one universal fact occurs, and to which I presume hundreds can witness, when the management of the milk-yard is solely in the hands of boys—an immense deal of rubbish, clubs, broken rails, and strips of boards, and especially stones in abundance, may be seen scattered all over the yard, and in case one wishes to correct his cow, he finds every thing in readiness. I have before now seen loads of such rubbish collected around farm-yards, and truly it does not present a very neat looking appearance. Those farmers, therefore, who cannot well take the management of these affairs to themselves, if they wish to have their cows thrive, kept in good order, and gently treated, are advised to keep their yards clear of

all these weapons, so as to remove even the temptation to evil. And nothing will give a stranger a better opinion of a farmer as he passes by, than to see every thing look neat and clean around his dwelling and barns. From this circumstance he will draw the inference, that, it is so all over his farm, and he will always call that man a *neat* farmer. C. P.

H———e, July 16, 1836.

Prickly Comfrey—a new species of Food for Cattle.

[FROM THE ARCANA OF SCIENCE.]

Sympyytum Asperrimum, a hardy perennial of gigantic growth, introduced from Caucasus, as an ornamental plant in 1801, by Messrs. Lodgigee, of Hackney, as specified in Curtis's *Botanical Magazine*, where it is figured, No. 929. Horses, cows, sheep, pigs, and geese may be fed with it; and as it is of wonderful growth, and, may be cut successively from April to October, it may be cultivated to great advantage. For horses, to be put in the racks, spread on pastures, or the green stalks to be cut with chaff, it will be found most useful.—Two out of three will take it at once, the others will soon follow, and when once the taste is acquired, they will never leave it. Cows do not take it at first so freely as the horse, but soon take it, and are eager for it. For sheep or lambs it is very good; they will take it freely, the latter before they are a month old. It is a very early plant, and immediately follows the turnips. The first crop of leaves to be fed off before the flowering stalks rise care being taken not to feed too hard, so as to damage the crowns of the plants. Spread on pastures, put in racks or folds on fallows, it will be found of great service. For pigs it is very useful, they eat it freely and do well. Geese will eat it, as soon as hatched. It will grow in all soils and situations, superior to any other plant, and may be planted by the sides of ditches, in any waste corner, fields, orchards, gardens, &c., where only useless rubbish grows. The only expense is, the purchase of a few in the first instance, as it may be increased to any quantity, and, once established, will last for ever. I know some that have stood more than twenty years, and are as full of vigour as they have ever been. It is now ready for cutting (March 31st.) I have cut it when more than seven feet high, and as thick as it could stand on the ground. I once cut and weighed one square rood, the average was seventeen tons, three cwt. per acre. I have no doubt but that in the course of the year the produce would have been thirty tons. I cannot say what effect continual cutting may have on this plant, or on the land, for many years together; but as far as I have experienced, it does not weaken the plant. I have cut it three times in one year, and found it equally strong the following spring. The proper distance for planting it is from two to five feet square, according to the quality of the land. It may be planted at any time of the year, but, like other herbaceous plants, is best when in a growing state. See a letter to Lord Farnborough, signed Dr. Grant, in the *Northampton Herald and General Advertiser*, Saturday, October 10, 1835.

Preservation of Leeches.

[FROM THE DUBLIN JOURNAL OF MEDICAL AND CHEMICAL SCIENCE.

A. Voget, in a notice inserted in the *Pharmaceutische Zeitung*, observes, that he has been in the habit of adding a small quantity of

powdered crabs eyes, to the water in which he keeps leeches. This powder of course sinks, forming in the bottom of the vessel a thin stratum, in which the leeches seem to take the greatest pleasure, creeping about on it, and thus cleansing the surface of their skins, and getting rid of the mucous threads and flocculi, with which they soon become encumbered, when in a state of captivity.

Cavallion, Chevallier, and Moreau de Jones, have all borne witness to the good effect of mixing *charcoal* with the water in which leeches are transported from one distant place to another. In cases where it is necessary to carry them during a long sea voyage, the inside of the vessel should be well *charred*, and some very finely powdered charcoal should be added to the water. Cavaillon prefers for this purpose *animal charcoal*, as it possesses much stronger antiseptic powers than the vegetable. It was by means of charring the casks and adding some charcoal to the water, that the French succeeded in conveying in health and vigour, a considerable number of the fish called gorana, from the isle of Bourbon to Martinique.

Doctor Kluge, of the Charite, in Berlin, made some interesting experiments, on the best means of preserving leeches. From his researches, Dr. Heyfelder had been led to recommend a mixture of three parts of rectified spirits, four parts wine vinegar, and twenty-four parts water. The leeches are to be placed in this mixture, and are to be left in it a little less than five minutes, after which they are to be washed with fresh river water, and to be put into a vessel for keeping. Leeches that have been used are likewise served in this manner.

Morus Multicaulis in East Florida.

[FROM THE SILK CULTURIST.]

In November of '33, I arrived in St. Augustine, with fifty *small* plants of the Morus Multicaulis, obtained from Mrs. Parmentier. They were the first ever brought to Florida. Little attention was bestowed on them. They were planted in a crowded nursery, and allowed to vegetate as they could till the Spring of '35, when some of them were laid and some cuttings taken from them. A few which had room to expand are now fruit bearing trees of some ten inches in circumference. It was late in the spring, or perhaps June, when I gave the Rev. Mr. Thomas a few cuttings, and with them a sprout with a fibre of root, which was recommended to his special care. He gave it a good situation, and its growth was remarkable. In three months, I have no doubt it had increased in volume one hundred fold. At this time, about the first of September, I advised Mr. T. to lay it; but he replied that it was so beautiful he disliked to spoil it. He did, however, lay it in the early part of September, and in three months more, when he was talking of a return to Carolina, I offered him ten dollars, I think, for the product of the little plant I had given him six months before. He probably got much more. The case, however, was a remarkable one.

The plant may be propagated here much more rapidly than at the North, as the growing season is ten months instead of five or six; but we are not to expect in extended operations, to realize results in proportion to Mr. Thomas' success with a single plant. Mostly from the small lot of plants I brought on as above, there are now some twenty or thirty thousand in the Territory; and as within the last year I have introduced a new and larger stock from the North; and as others have also brought in some, within two or three years, if allowed to proceed in their propagation by the *Seminoles*, there may be millions of the Morus Multicaulis in East Florida.

D. BROWN.

St. Augustine, June 13, 1836.

PART III.

MISCELLANEOUS INTELLIGENCE.

Great Crop of Cotton.—Messrs. Editors.—Permit me to give you a specimen of a good crop, which was made last year, on a plantation, (not in Edgefield, I wish it was,) but in Jefferson County, Middle Florida, 28 miles from Tallahassee. The gentleman emigrated from this place a few years ago, and has had a success, to us, most remarkable. With forty-five hands, he made off of 365 acres, 349 bags, or 135,458 pounds of clean Cotton, for which he received in cash $21,082 68 cents. He made also 3000 bushels of corn, and upwards of 1000 lbs. of sugar.—*Edgefield Adv.*

Importation of African Asses.—Five large African male asses, of a nearly milk white color, were on Saturday landed from the brig Commaquid, which arrived here on Friday from Gibraltar. These animals are altogether unlike in appearance to the English ass or donkey, one of which may be occasionally seen here, and which is a diminutive little animal, and of very little use as a beast of burthen. The African ass is, on the contrary, as large as a middle sized horse, and has been, as far back as the days of scripture, an animal much prized for its useful qualities in Asia and Africa. The present importation—although there are probably asses enough already in the country—is likely to prove a valuable acquisition.—*Journal of Commerce.*

Native Country of Maize.—Roulin, Humboldt, and Bonpland, have noticed this plant in its native state, in America, and have hence concluded that it was originally derived from that country. Michaud, Daru, Gregory, and Bonafous, state, that it was known in Asia Minor before the discovery of America. Crawford, in his History of the Indian Archipelago tells us that maize was cultivated by the inhabitants of these islands, under the name of *djagoung*, before the discovery of America. In the Natural History of China, composed by Li-Chi-Tchin, towards the middle of the sixteenth century, an exact figure is given of maize, under the title of *tachou-cha;* and Rifaud, in his "Voyage en Egypte, &c., from 1805 to 1807," discovered this grain in a subterraneous excavation in a state of remarkably good preservation. M. Virey, however, refutes these statements, (*Journal de Pharmacie*, xx, 571) by showing that these authors have mistaken the *holcus sorghum* for maize, and that the maize of Rifaud is the *holcus bicolor*, a native of Egypt according to Delilie. Where maize occurs in the east, there is no proof of its having been carried there previously to the discovery of America.

Maize, (Zea mays) therefore sprung from America; *millet*, or *couz couz*, from Africa; rice, *(oryza sativa,)* from Asia; and wheat, barley and oats from Europe.—*Thompson's Records.*

Spontaneous plants.—Few things are more extraordinary than the unusual appearance and developement of certain plants in certain circumstances. Thus after the great fire of London in 1666, the entire surface of the destroyed city was covered with such a vast profusion of a species of a cruciferous plant, the *Sisymbrium irio* of Linæus, that it was calculated that the whole of the rest of Europe could not contain so many plants of it. It is also known that if a spring of salt water makes its appearance in a spot, even a great distance from the sea, the neighborhood is soon covered with plants peculiar to a maritime locality, which plants, previous to this occurrence, were entire strangers to the country, Again, when a lake happens to dry up, the surface is immediately usurped by a vegetation which is entirely peculiar, and quite different from that which flourished on its former banks. When certain marshes of Zealand were drained, the

Carex Cyperoides was observed in abundance, and it is known this is not at all a Danish plant, but peculiar to the north of Germany. In a work upon the Useful Mosses by M. de Brebisson, which has been announced for some time, this botanist states that a pond in the neighborhood of Falaise having been rendered dry during many weeks in the height of summer, the mud, in drying was immediately and entirely covered, to the extent of many, square yards, by a minute, compact, green turf, formed of an imperceptible moss. the *Phaseum axillare*, the stalks of which were so close to each other, that upon a square inch of this new soil, might be counted more than five thousand individuals of this minute plant, which had never previously been observed in the country.—*Arcana of Science and Art.*

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A Female Agriculturist.---Mrs. Bate, near Louisville, Kentucky, with the aid of *sixteen* farm hands, produced the following results from her farm during the last season. The products were 61 tons of hemp, $12,200; 375 tons of hay, $3,750; 10,000 bushels of corn, $4,000; 22,000 lbs. of pork $11,000; wool $450, wheat $500, beef $160, oats $200, hemp seed $225, apples and cider $300, marketing $200 and potatoes $275. Total $23,360.---*Genesee Farmer.*

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To Cure the Big Head in Horses.—Take one quart of hog's lard, one quart of tar, and one pound of sulphur of brimstone; put all together in a pot over a slow fire, and boil it till the brimstone disappears; then make a mop on a strong stick, and rub the horses head from the eyes to the nostrils once a day until the mixture is all gone, and it will make a cure. I have tried one horse and did cure him sound and well. If you think the receipt worthy your attention, you can put it in your Register, with my name. RICHARD B. HARRISON.

Dallas co., Alabama, April 19, 1836.

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Cure for the Garget in Cows.—Cows after ceasing to be milked are very apt to suffer from an induration of the glands of the udder, and it not unfrequently happens that the same effect is produced by negligent milking. If a cow be not stripped at each time, she will ultimately go dry and often times the most serious consequences result to the animal from the effects of this neglect of the dairy-maid. Whenever the udder becomes inflamed and hardened from either of these causes, let a liniment b · composed of camphor and blue ointment, and the udder be well embrocated therewith, and should a feverish condition of the animal ensue a dose of salts say 3 or 4 ounces at a time should be exhibited for 3 or 4 days in succession.—*Farmer & Gardener.*

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Nettles.—Every body knows that the leaves of stinging nettles are thick set with sharp prickles that penetrate the skin when touched and occasion pain, heat and swelling, which symptoms were imagined formerly to ensue from the prickles being left in the wounds they made. But the microscope discovers something much more wonderful in this common vegetable, and shows that its prickles are formed and act in the same manner as the stings of living animals. Every one of them is found to be a right hollow body terminating in the most acute point possible, with an opening near its end. At the bottom of this cavity lies a minute vessel or bag, containing a limpid liquor, which, upon the least touching of the prickle is squirted through the little outlet, and if it enters the skin, produces the mischief before mentioned by the pungency of its salts. Hence it comes to pass, that when the leaves of nettles are considerably dried by the heat of the sun, they sting but very little; whereas such as are green and juicy produce pain and, inflammation.—*Horticultural Register.*

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Destroy Wasps.—"Hang up glass phials filled with honey or sugar water, in different parts among the wall, espalier and standard fruit trees, in order to destroy wasps, ants, &c. which would otherwise infest and devour the choice fruits; by the sweetness of the water they are tempted into the phials, and frequently drowned; but these should be hung before the fruit begins to ripen for then the insects would be much sooner tempted to the water, than after having tasted the fruit; where a sufficient number of glasses are placed in time, and properly attended to, and the water occasionally renewed, very little damage is done by these insects."—*M'Mahon.*

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Improvement in Vegetables.—There is scarcely a vegetable which we at present employ that can be found growing naturally. Buffon states that our wheat is a fictitious production, raised to its present condition by the art of Agriculture. Rice, rye, barley, or even oats are not to be found wild, that is to say, growing

naturally in any part of the earth, but have been altered by the industry of mankind, from plants not now resembling them even in such a degree as to enable us to recognise the relations. The acid and disagreeable *acid graveolens* has been thus transformed into delicious celery; and the *colewort*, a plant of scanty leaves, not weighing altogether half an ounce has been improved into cabbage whose leaves alone weigh many pounds, or into a cauliflower of considerable dimensions, being only the embryo of a few buds, which, in the natural state, would not have weighed many grains. The potato again, whose introduction has added many millions to our population, derives its origin from a small bitter root which grows wild at Chili and at Montevideo. If any of my readers should be sceptical upon the subject of such metamorphoses, let them visit the fairy bowers of horticulture, and they will there perceive that her magic wand has not only converted the tough, coriacaceous covering of the almond into the soft and melting flesh of the peach, but that by her spells, the sour sloe has ripened into the delicious plum, and the austere crab of our woods into the golden pippin; and this, again, has been made to sport in almost endless variety, emulating in beauty of form and colour, in exuberance of fertility, and in richness of flavor, the rarer productions of warmer regions and more propitious climes.---*Dr. Paris on Diet.*

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Preservation of Grapes ---In a cask or barrel, having its crevices well closed, to prevent access of the external air, place a layer of bran, which has been well dried in an oven; upon this place a layer of bunches of grapes well cleaned, and gathered in the afternoon of a dry day, before they are perfectly ripe; proceed then with alternate layers of bran and grapes till the barrel is full, taking care that the grapes do not touch each other, and to let the last layer be of bran; then close the barrel so that the air may not be able to penetrate. Grapes thus packed will keep for a twelvemonth. To restore their freshness, cut the end of each bunch, and put that of white grapes into white wine, and that of black grapes into red wine, as flowers are put into water to keep them fresh.---*Horticultural Register.*

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To improve dried Figs.---These fruits, when they are brought to table, are commonly covered with a scurf, composed of a mealy, sugary substance, very disagreeable to the teeth. The way to get rid of the scurf, and render the figs as plump and clear skinned as when they are newly gathered from the tree, is, first to keep them in a cool and rather moist cellar for twenty-four hours before using; and secondly, just before presenting them at table, to put them into a receiver, and exhaust the air. After remaining there two minutes, they should be taken out and gently brushed, when they will be found perfectly plump and clear skinned.---*Ibid.*

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Preserving Strawberries ---Weigh the strawberries after you have picked off the stems. To each pound of fruit allow a pound of loaf sugar which must be powdered. Strew half of the sugar over the strawberries, and let them stand in a cold place two or three hours. Then put them in a preserving kettle over a slow fire and by degrees strew on the rest of the sugar. Boil them fifteen or twenty minutes, and skim them well.

Put them in wide mouthed bottles, and when cold, seal the corks.

If you wish to do them whole, take them carefully out of the syrup one at a time while boiling. Spread them to cool on large dishes, not letting the strawberries touch each other, and when cool, return them to the syrup, and boil them a little longer. Repeat this several times.

Keep the bottles in dry sand, in a place that is cool and not damp.

Gooseberries, currants, raspberries, cherries and grapes may be done in the same manner The stones must be taken from the cherries, which should be morellas, or the largest and best red cherries,---and the seeds should be extracted from the grapes with the sharp point of a penknife. Gooseberries, grapes ond cherries require longer boiling than strawberries, raspberries, or currants.---*Ib.*

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Transplanting Evergreens.---The unfading verdure of the resinous trees forms a pleasant relief to the eye amid the desolate fields and snow-crowned hills of winter. These beautiful inmates of the northern forests, are peculiarly intractable to the skill of cultivation The spruce and the fir, when removed from the cold and bleak solitudes where they best love to fix their roots and send up their tall pyramids of green to a more genial situation, wither and perish. These beautiful and stately plants are desirable as the ornaments of the garden or the groves of cultivated scenery. The English books recommend that they be removed in the

depth of winter with frozen masses of earth around their roots, to holes dug for their reception during the preceding autumn.---*Ib.*

Pickling Beans---Preserving Seed Beans.---The Germans who are good economists in household matters, have a plan of pickling green beans so as to preserve them for winter use.

This may be done by taking the beans in the pods before large enough to shell ---string them---cut them into suitable pieces, and pack them down with salt. A board or something heavy should be put upon them to press them down and keep them below the pickle.

Beans large enough to shell may also be packed down in the same manner. In the winter or at any time afterwards they may be taken out---soaked in fresh water, and then cooked as you would common green beans.

There is one thing in preserving beans for seed that should be attended to more generally than it is---viz. save the earliest. Among those beans which run or climb, there are many found at the bottom of the stalk which get quite ripe long before those at the top of the pole. These should be saved for seed. It is astonishing what a difference a little care in this respect will make in the course of a few years in the ripening of the crop.---*Maine Farmer.*

Lunar Influence.---A writer in the New-York Farmer has the following remarks on the snbject of the influence of the moon upon the weather:

"In the course of my observation, I could not but refer at times to the remarks of the Indians, the ancient inhabitants of the country of my youth, of which there were a number of them living, and that was, that after the changes of the moon, if the corners pointed up in the form of a dish, it would be dry weather that moon, but if one down and the other up, it would be rainy or wet. Although astronomical knowledge taught me this was without foundation, still from repeated remarks, I was finally compelled to admit that there was some truth in the observation; and in process of time was led to form the following conclusions; that is, when the moon changes in a high north lattitude, it is generally cold and dry: but if in extreme south latitude, warm and wet, and apt to be stormy. It may be remarked, that when the moon changes in high north latitude, it makes the figure of the corners pointing up, and in the extreme south the other figure, which verifies the truth of the old Indian's remark. Hence although admitting that the sun and moon are the principal agents in governing the weather, there seems to be other causes which at times vary uncertainty; but I have very rarely known it fail that the moon in extreme south latitude, denotes warm and stormy weather, and in high north latitude, cold and dry; and they are apt to be of short duration. As my limits will not allow me to go farther into detail, it may suffice to remark, that if our almanack makers would give us the latitude of the moon at the full change, and quarters, with the course she is going whether north or south, we might foretell for ourselves, or they might give it by their own judgment from the moon's latitude in probability.---*Farmer and Gardener.*

Manufacture of Salt.---At the Anderton Works, near Norwich, a new method of making salt has been discovered, and pans have been put upon a small scale, to try the effect, which has proved so far satisfactory. A fresh water boiler is placed in the midst of the brine directly over the fire, the brine receiving at once, the whole of the heat from the boiler and the fire; the overplus steam which is generated is applied to another pan; by which means a high temperature is obtained for sixteen thousand surface feet, which by the old mode would require four fires; immense expense of labor, and wear and tear, is saved. Mr. W. Garrod is the inventor; he has taken out a patent. It is expected that more than five tons of salt will be made by one ton of coals; by the old method not more than two and a half or three can be produced from the same quantity of fuel.---*English paper.*

Green Corn and Snow Balls.---On Wednesday morning, we noticed in a market wagon, containing corn in the milk, the strange sight of a *Snow Ball* between two and three inches in diameter. It was formed from the frost which on that morning was visible in every direction around us, blasting, we fear, the small hopes many of the farmers had cherished of their corn crop.---*Portsmouth Gazette, Aug.* 1836.